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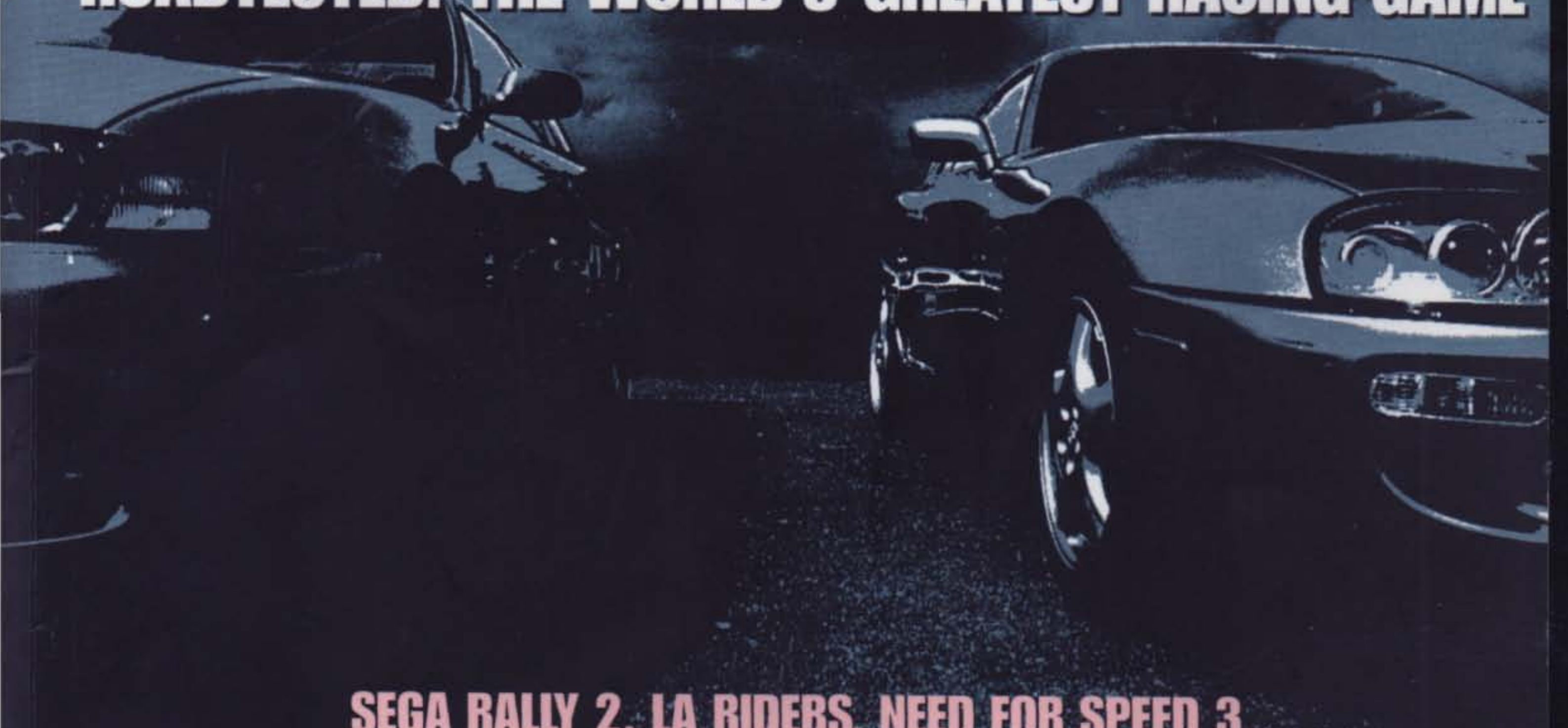
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EDGE

PlayStation ■ Nintendo 64 ■ PC ■ Saturn ■ Arcade ■ Net ■ Multimedia

PLAYSTATION PERFECTION

ROADTESTED: THE WORLD'S GREATEST RACING GAME



SEGA RALLY 2, LA RIDERS, NEED FOR SPEED 3

SYSTEM 3, OUTCAST, YOSHI'S STORY, GRIM FANDANGO,

PLUS: THE NEXT GENERATION OF PC3D ACCELERATION EXPLORED

It's a measure of **Edge**'s exacting standards that this issue (number 55, remember) is only the second time the magazine has awarded a game with a prestigious 'ten out of ten' score. Sony's *Gran Turismo* joins *Super Mario 64* in the rollcall of modern videogaming masterpieces.

On the surface, the two games couldn't be more different. *Mario* is an experiment in a previously untested genre – but it is one that couldn't have been more confidently and masterfully executed. Sony's game, meanwhile, is equally ambitious but takes on a packed genre already jossling with potential standard-bearers. It is perhaps this that signifies just how successful its creators have been in carving itself such a successful niche.

But both games do share a unifying common trait, though: that is, they offer experiences quite unlike anything that has gone before. The impact of *Gran Turismo*'s astonishing graphical realism may not fully hit home until its cars have been upgraded and its magnificent replays enjoyed several times over. But quite how the developers created a title that so brilliantly straddles the divide between a comprehensive simulation and an accessible, incredibly playable arcade game is a feat to behold.

In fact, *GT* is so well designed that it serves as a perfect reminder that technology is only as good as those who are commanding it. For proof, witness the worrying gap that now exists between this and rival PC and N64 racers. PlayStation owners, your time has arrived. The Sony killer app is here.

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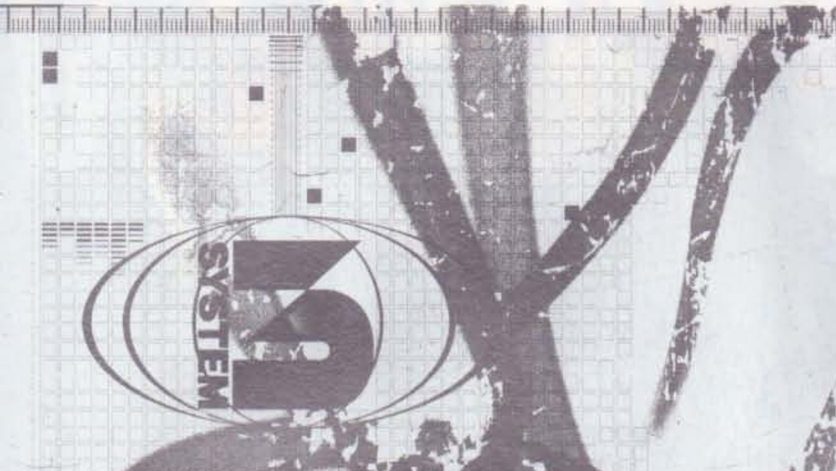
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SYSTEM 3 60

The veteran UK developer enters a new era of games development





TESTSCREEN

The most accurate, definitive videogame reviews in the world





PRESCREEN 23

The racing theme continues with *Need for Speed 3*; plus heavyweights *1080° Snowboarding* and *Tekken 3*



VIEWPOINT

EXPRESS YOURSELF IN **EDGE** – WRITE TO: LETTERS, **EDGE**, 30 MONMOUTH STREET, BATH, BA1 2BW (email: edge@futurenet.co.uk)

There was once an interesting children's fable concerning a certain emperor, his new coat and some fawning courtiers.

Having followed gaming for nearly 20 years, I have no doubt that today's games represent the best yet seen. Specifically, the PlayStation and PC have been responsible for invigorating gaming – increasing credibility while producing adult entertainment with adult themes. Far from you criticising the variety and breadth of software available on the PlayStation, surely Sony should be congratulated for producing a format that can encompass everything from *Broken Sword* to *Tekken*.

So where is this letter heading? Of late, **Edge** has seemed obsessed by Rare and the emperor Nintendo. No matter how good these games may or may not be, they certainly don't push back barriers like *Civilisation* or *Elite*. Adding '64' to a title doesn't equal ten for originality. If Nintendo had its way, gaming would remain in the domain of eight-year-olds, in a market more controlled than Stalin's Russia. I'm sure that the cynical world of **Edge** will judge such comments as the height of unsophisticated political incorrectness.

Gaming is more than the sum of playability, graphics and originality. It's also about emotion and having a sense of 'being there'. To be honest, the future of interactive entertainment involving pink rabbits racing against menacing koala bears saddens me. I'd rather have my electric dreams in 2097.

Phil Simmons,
Bedfordshire

Frankly, **Edge** is puzzled by your judgment of what makes a good game. Few titles can have raised pulses, standards or smiles as high as *Super Mario 64* and *GoldenEye* – the latter very much an adult 'being there' title (which you seem to have conveniently overlooked). As for lack of originality, the PC and PlayStation markets are two of the worst culprits, both containing a frightening number of recycled ideas and underdeveloped sequels. This issue's *Gran Turismo* review shows that even a petulant four-year-old (magazine) like **Edge** is capable of enjoying and appreciating an 'adult themed' game (regardless of the platform it's running on).

I am always reading in your magazine that the most important thing about a game is gameplay. So why is this not reflected in your recruitment section? While there are hundreds of handsomely paid positions for 3D programmers, Softimage gurus etc, there are only a handful of (relatively) poorly paid places for the supposedly most important job of all – the game designer. I think that this is both a sign of the times and a sad state of affairs.

I am at university on a renowned computer animation course, and while most of my peers are concerned with rendering times, I am not. I am far more interested in the whole concept behind the game, but I don't see any real opportunities for a graduate that isn't a master at C/C++. I am thinking of getting a PC and Net Yaroze just to give myself a chance, and am working hard to learn C, as well as developing game ideas. Is this the way to go? Have I a chance when I leave university, or have all the games designers required already been found (or are they also 3D programmers, by some small chance)?

For something that is so vitally important to a game, it doesn't seem that it is taken as seriously as graphics, even after everyone keeps saying, 'quality not quantity.' I just want to know why, judging by the number of people wanted and the vast size of the salaries+bonus+royalties+stock+options+company car etc, the industry is still so biased towards visuals and not game design. When will it change?

Jack Griffin,
Bournemouth University

Edge sympathises wholeheartedly, but while most companies would diligently claim to be pro-gameplay, the reality for many is that a preoccupation with graphics gets in the way of such worthy intentions. This is partly because today's games industry is so graphics-driven – in short, consumers expect amazing visuals. Also remember that it is far easier to replicate the way something looks rather than the way it plays... Games like *GTA* that flout graphical convention and deliver rich game environments instead are rare, and sadly, given the current publishing climate, risky.

As for your future career plans, learning C may not be the answer. Creative skills are ultimately transferable and you may find that an artistic role in a company can progress to a game design post.

Until recently I worked as an artist at a development house, using unlicensed copies of *Lightwave* and *Photoshop*. There were eight other artists there at the same time as me, also using these packages without license. Other people in the company were using *MS Office*, *Pagemaker*, *Visual C++*, *Borland C* etc. – again with no legal software. We were developing a powerboat racing title for a major publisher which also knew the software we were using was pirated.

Is this really the state of the software industry at the moment? Does nobody care about software piracy any more, to the point where even developers don't bother about buying licensed versions of software? Ironically, the company director was constantly worried about our game leaking onto the internet and being pirated. Perhaps **Edge** should investigate?

name and address withheld

Edge doesn't condone piracy at any level of the industry, although the high prices of some development packages must make copying a sore temptation for smaller codeshops. However, that in no way justifies such action, and the name of the company you allege has been passed to the proper authorities.

Regarding your awards (**E54**), how could you possibly place *GoldenEye* above *Final Fantasy VII*, when the latter is without doubt one of the most amazing games ever created? I own most of the consoles from the NES to the N64 and have played hundreds of games. Although *GoldenEye* is an excellent game, its pleasures are short-lived and after completion (in agent skill) there is no reason to come back, other than the fabulous multiplayer game. *Final Fantasy* offers so much more in terms of depth, story, sound, and most importantly gameplay. Although they're both great games in their respective categories, *FFVII* has the edge over *GoldenEye*. I've never played a better game, although *Mario 64* comes close (yet I hope *Zelda* will take *FFVII*'s place at the top of my list).

Simon Hagan,
via email

Disregarding matters of taste (and the fact that you should perhaps try *GoldenEye* on a 'proper' setting), Rare's creation is far more of a game in the classic sense than *FFVII*. While Square may have imbued its title with a great story and stunning visuals – for which it deserves all the praise it has received – **Edge** disagrees with you on the matter of gameplay. *GoldenEye* involves the player to a degree that so pitifully few games do, while *FFVII* can sometimes come dangerously close to that most discredited of genres; the interactive movie. It remains a towering achievement, nonetheless.

Would it be possible to add another CD section with all the past reviews, along with their rating? I think a lot of gameheads would welcome it.

Tanju Özel,
The Netherlands

While such a suggestion has already been considered, the continuity of the cover CD itself hasn't yet been determined. Until then, the construction of a database for its own use will take priority...

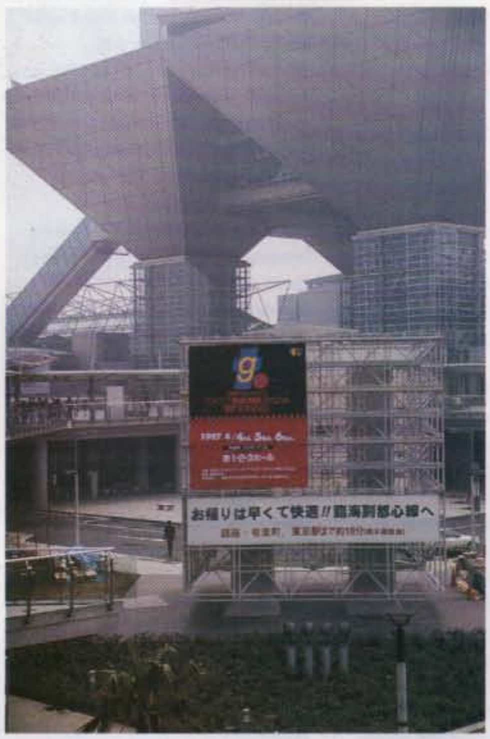
Cutting Edge

The latest news from the world of interactive entertainment

KATANA POISED TO STRIKE IN '99



Saturn successor, the PowerVR2-based Katana, cannot arrive soon enough for Sega's fortunes



Will Katana take its first public bow at this year's Tokyo Game Show? Recent speculation indicates so



These murky pictures of 'Katana' – most likely elaborate fakes – are the only ones to emerge so far

Sega Europe has officially announced that its next console will launch in Europe during 1999. The latest details on the Saturn 2 project include yet another name change with 'Katana' now the designated choice in the whirl of rumours surrounding the machine. The specifications revealed previously (see **E**52) appear to be reliable, although Sega still refuses to confirm any details. The company will continue supporting its current product range during 1998 whilst preparing for the launch.

Perhaps most significantly, though, it has also emerged that, in addition to sourcing components from various Japanese companies, thirdparties will also be producing own-branded Katanas. This will come as no surprise to seasoned Sega watchers, as Hitachi and Victor both released Saturns alongside Sega in Japan. It's expected that NEC, who is providing VideoLogic's PowerVR2 technology for Katana, will release its own branded version of the console and there may yet be other hardware manufacturers following suit.

Regarding the guts of the machine, a Sega second-party developer confirmed to **Edge** that the Hitachi SH4 CPU had been chosen mainly because it was possible to incorporate other predetermined functions in the processor, similar to Intel's MMX. These functions – including trajectory calculations and real-time light management – would also permit matrix transformations at very high speed. The Sega insider added that a high resolution of 640x240 would be possible with a refresh rate of 60 frames per second. Katana would also use D3D drivers facilitating fast conversion of titles from the PC and vice versa.

With Microsoft (developers of Katana's WinCE Operating System) and Sega co-sponsoring the Spring Tokyo Game Show, speculation is rife that Katana will make a domestic debut at the annual expo. However, it is possible that Microsoft may simply be using the show to bolster the PC profile as a games format in console-obsessed Japan.

And just as Katana's star is in ascendancy, so Saturn's is in decline. Recently, Electronic Arts announced that it was stopping all future development for the Saturn and has no releases planned for '98. Capcom is also rumoured to be reconsidering the planned release of *X-Men vs Street Fighter* (and any further Saturn games) in the US, which would leave precious few third party developers producing games for the ailing machine.

The wider implications of the Saturn's decline are becoming clear as certain chains in the US are already trying to offload their existing stocks of Saturn software – including *Fighters Megamix* and *NiGHTS*, complete with pack-in controller – by selling titles at the giveaway price of $4.95. Sources close to SOA report huge job cuts at Sega's US operation. Rumours that its entire public relations and marketing departments had been laid off came from multiple sources as **Edge** went to press and one source added that the whole US software development staff had also been sacked. SoA themselves were neither confirming or denying such a day of the long knives but such drastic measures would not be surprising given SOA's poor performance over the last couple of years – accounting for a $200m loss in 1996 and little joy in 1997 either.

By contrast, Japanese national newspapers were quick to announce Sega Enterprises president Hayao Nakayama's step down to vice-chairman of the board of directors, to be replaced by the corporation's current vice president, Shoichiro Irimajiri. The move is thought to be part of Sega's extensive internal restructuring policy.



If Capcom has canned its planned release of ***X-Men vs Street Fighter***, it's another sign, if any were needed, of the Saturn's fast-diminishing lifespan

Set-top PlayStations?

PlayStation hardware could find itself in even more homes through a new venture between Sony and US electronics firm, NextLevel. Sony has announced plans to buy shares in the American firm in a deal to create new set-top boxes for US cable companies. Aiming to create the next generation of digital set-top boxes, the new joint creation will use Sony technology and, in theory, could contain both a DVD player and the PlayStation chipset, something the suggested $300 price tag does not preclude from happening.

...WHILE SONY REFLECTS ON BUMPER '97

In direct contrast to Sega, it would seem the hardest task facing Sony at the moment is that of recalculating its PlayStation sales forecasts. Demand for the console shows little sign of abating, with UK shortages at retail (see InDin story, p10) only the tip of the iceberg. SCEE started 1997 with an installed base of 2.2 million in PAL territories (which includes Australia and New Zealand), expecting to shift another 3.5 million by the end of the next financial year in March 1998.

Now, SCEE president Chris Deering isn't so sure. 'We'll sell 5.5 million, maybe more... we've already shipped considerably more than four million.' Even a conservative estimate would bring the number of PlayStations in Europe to a staggering seven million.



Chris Deering feels that the PlayStation's irresistible rise last year echoed the rapid take-up of home videos in the UK in the early '80s

'We'll sell 5.5 million, maybe more...
...we've already shipped considerably more than
four million.'

SCEE president, Chris Deering on PlayStation sales in Europe

Sony's research points to an average age of 20–21 for PlayStation users, with over 5% penetration of households with TVs in Europe and close to 10% in the UK. 'It's a very exciting time,' Deering told UK trade paper, CTW. 'It reminds of my experiences in the video industry of the early '80s. It took video four years to achieve 10 per cent penetration.'

The arrival of the Nintendo 64 last March undoubtedly gave the whole videogames market a fillip but the N64's staggered European launch – coupled with a simultaneous PlayStation price cut to £129 – is generally believed to have played into Sony's hands. Sony ended the year with PlayStation games accounting for over 65% of console software sales, with N64 carts a distant second, holding 16% of the market while the Game Boy was third with just under 10%. In addition to success in the traditional European markets, Sony has even made inroads in Russia, selling over 100,000 PlayStations.

Will Sony's irresistible rise continue in 1998 or will Nintendo, bolstered by a new flavour to its marketing – itself taking a leaf out of Sony's book – be able to erode the PlayStation's market share? All will become clear this year but if Sony can keep turning out software like *Gran Turismo*, its position looks assured.

MICROPROSE/GT DEAL COLLAPSES

GT Interactive's proposed takeover of MicroProse collapsed last month with both sides claiming the split was amicable yet both reportedly licking sizeable wounds.

Ron Chaimowitz, president of GTI, admitted that 'as we did more investigation, we felt that the acquisition would be dilutive to our earnings in 1998.' Never mind 1998, the proposed merger was also fairly dilutive [*sic*] to GT's share price with their stock value on Wall Street falling from $12 to $8 in the two months between announcing the deal and its cancellation. This effectively cut the value of the share-swap deal on the table for the merger from $250 million to $160 million.

For their part, MicroProse admit that the whole affair had hit the company hard. CEO Steve Race said that it had 'resulted in at least a quarter's worth of slippage in our business plan and product release schedule.' MicroProse's revenues will dip from an estimated $30 million to $20 million turning an expected profit into a loss of up to $10 million.

With wholesalers reluctant to take new product whilst the uncertain deal hang in the air, Christmas did little to cheer MicroProse who, along with GTI, have some rebuilding to do in '98.

MICROPROSE

INDIN AWARDS CELEBRATE SALES UPSWING

Britsoft's annual InDin (an imaginative foreshortening of 'industry dinner') binge took place late last December with backslapping replacing the usual backstabbing. The reason for the altogether more congenial atmosphere was not the luxurious surroundings of the Dorchester nor the presence of quality 'turn' Frank Skinner – although the calibre of the comedian does seem tied to the current fortunes of the industry. No, the reason for the geniality was the fact that the UK industry had just seen its biggest ever year, the total value of domestic retail trade estimated at just under £890 million.

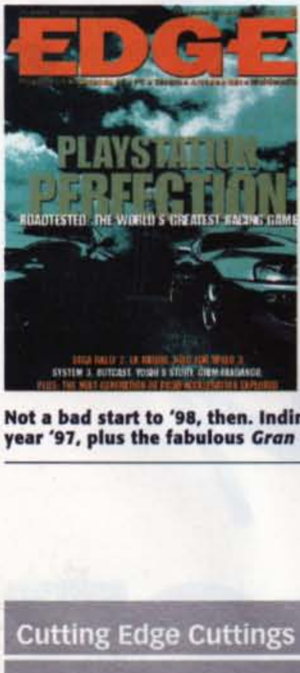
Buoyed by this news, InDin '97 was in award-giving mood with the first trophy of the night, consumer magazine of the year, going to **Edge**. It's the second time that **Edge** has won the award, voted for by readers of industry bible, Computer Trade Weekly.

Other winners were Electronics Boutique and Virgin Our Price as specialist retailer and multiple retailer respectively. On the software front, Lara Croft swept all before her netting developer of the year for Core, publisher of the year for Eidos and console game of the year (based on sales) for *Tomb Raider 2*. *Red Alert* took the honours as PC game of the year.

The year ended with sales for the week ending December 13 hitting an all-time high according to Chart Track with 950,000 units of hardware and software sold with a value of £32 million. At the same time, high street stores were experiencing severe shortages of PlayStations with SCEE taking drastic measures to get as many to the shops before Christmas. Chartering 50 flights carrying over 300 tonnes of consoles, Sony aimed to cut delivery time from factory to retail to just five days and claimed that Tokyo airport had never seen so much traffic from one company.

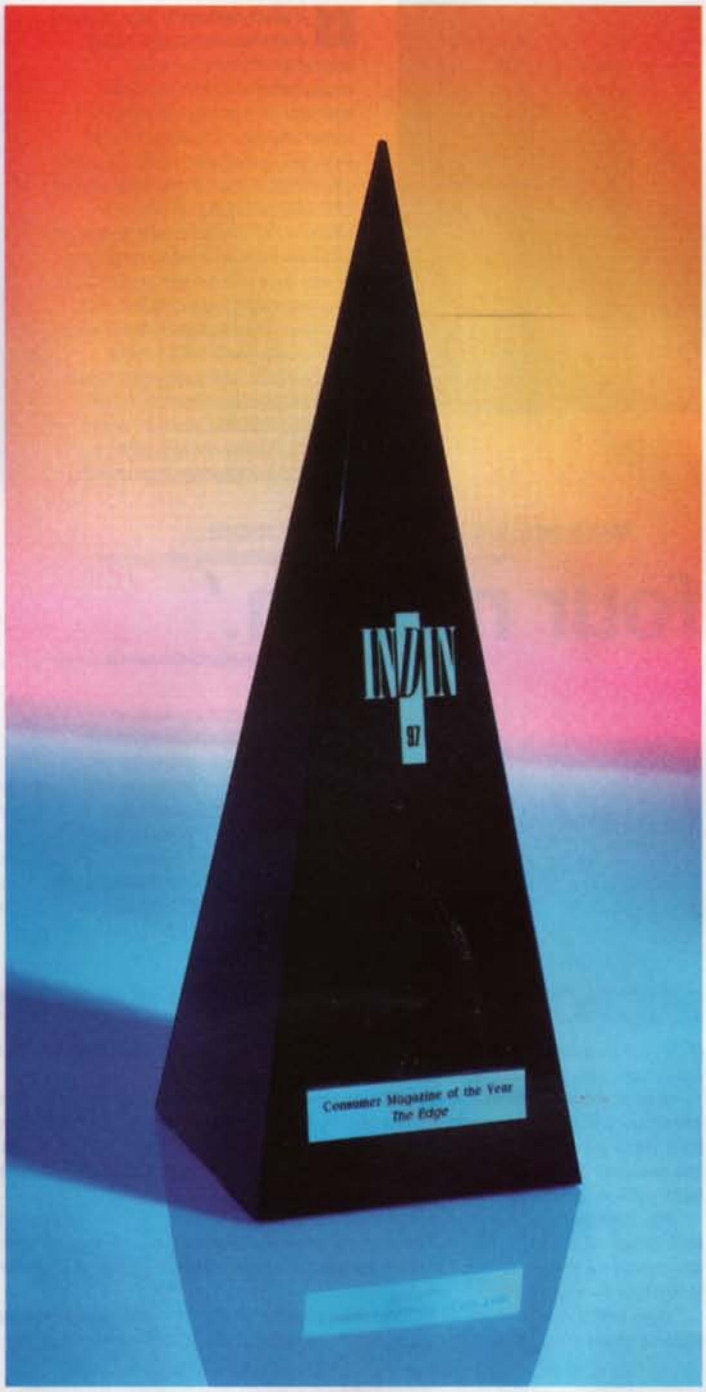
Nintendo's UK distributor THE Games countered by saying that they'd benefit from the shortfall of PlayStations, although they themselves suffered from a drought of *GoldenEye* carts in this key selling period.

Back at InDin '97, host and Pearson New Entertainment Europe chairman Nick Alexander felt obliged to offer a few words of caution to Sony et al as they struggled to keep up with the unprecedented demand for product: 'If the words of an industry has-been are of any value, I urge you not to try too hard. The day you catch up will be the day the market peaks.'





Not a bad start to '98, then. Indin consumer magazine of the year '97, plus the fabulous *Gran Turismo* on Edge's dual covers



Cutting Edge Cuttings

N64 on the cheap

Nintendo has opened the year bullishly in the US with a price cut for selected cartridges, the start of a 'Player's Choice' range of mid-price titles to compete with the lower cost of PlayStation titles. The seven games are mostly older titles – *Super Mario 64*, *Mario Kart 64*, *Cruis'n USA*, *Wave Race 64*, *Shadows Of The Empire* and *Turok* – but the more recent *Star Fox 64*, aka *Lylat Wars*, also benefits from this welcome reduction. Sadly, there are no signs of a similar strategy being adopted in the UK anytime soon.

***Heart of Darkness* to see light**

There's yet another twist in the tale of the much-delayed *Heart Of Darkness*, a game conceived some five years ago and initially scheduled for release in Christmas 1995. With its publisher, Virgin Interactive, up for sale the game was put on the open market and was picked up by Infogrames. The French publisher will no doubt be hoping that the Amazing Studio title will perform as well as that other much-delayed, money-eating epic, James Cameron's *Titanic*.

MICROSOFT AND SGI COMBINE FORCES



Although current RIVA 128-supporting games look good, future titles may well look much better thanks to proposed improvements to DirectX

In the latest twist to affect the complex world of PC 3D graphics, Microsoft and SGI have announced plans to merge their respective Direct3D and OpenGL APIs to create a new generic graphics Application Programmer Interface named Fahrenheit. The deal is the closest this fraught market has come to creating a 3D acceleration standard since the need for faster 3D visuals became an issue several years ago.

Although little is currently known about what Microsoft and SGI plan to offer through Fahrenheit (the initiative is not expected to be implemented until the year 2000), the companies have suggested the project will consist of three tiers:

- A low-level API which should become the primary graphics API for both consumer and professional applications on the Windows platform.
- A Scene Graph API (evolved from SGI's current Scene Graph API) which provides a higher level of programming abstraction for developers, and increases overall graphics performance by providing high level data structures and algorithms.
- Large Model Visualisation Extensions, based on elements from both OpenGL and D3D – which allows the easier interactive manipulation of large 3D models.

The link between the two companies seems to offer benefits all round. OpenGL is a popular API with developers, and greater support from Microsoft should mean that those developers will find it easier to use the interface in their *Windows* games.

Hard details have yet to be worked out by the two companies. For now, it's business as usual, as Microsoft's **Kevin Baccus** told the online site of **Edge**'s sister magazine Next Generation: 'DirectX6 and DirectX7 will continue as planned as far as time frame goes. The Fahrenheit APIs will be rolled into some future DirectX release in the year 2000.'

However, the makers of graphics chipsets that use their own APIs such as Voodoo (Glide) and PowerVR (PowerSGL), are resolute that they will still offer these individual APIs. 3Dfx's **Andy Keane** responded by stating that, 'Game development is a very creative process and there will be a number of tools at developers' disposal. Like an artist selecting a brush to use, developers will have an opinion on using a common API or Glide.' But he added that Microsoft and SGI's move had 'cleared up the turmoil of how these APIs work together, which is good for everyone.'

It's especially good for Microsoft which has, as cynics will point out, got to diffuse a rivalry with SGI which could have threatened its domination of the generic API market. But regardless of Fahrenheit's mooted power, a single all-encompassing 3D graphics API standard is still a long way off. **E**

OpenGL™



As generic APIs, OpenGL and DirectX have been in competition over the past two years. The deal between SGI and Microsoft should bring stability



***GL Quake* was a huge success with gamers, symbolising the popularity of SGI's API**

An Application/Programmer Interface (API) is a set of software utilities that makes communication between the programmer, the 3D acceleration chipset and the PC much easier and more efficient. For a comprehensive update of PC 3D acceleration, see page 74.

Is Arnie Doomed?

The latest rumour cloud to hover around the *Doom* film is that it will star none other than that master of the method, Arnold Schwarzenegger. Tri-Star Pictures, who picked up the rights to the film after Universal put it in turnaround, brought in the writers of the forthcoming SWAT movie to script it, and Arnie is keen to be in the latter flick. This, apparently, has led him to examine the *Doom* project closely and there's no denying the essential ingredients – mindless gun-toting and no interaction with other characters – seem tailor-made for the former Terminator...

GTA Maxes Out

In what may prove to be a shrewd move, BMG has signed up PR guru to the stars, Max Clifford, to promote *Grand Theft Auto*. With one scare story already published in the News Of The World – the same edition Clifford got an 'Earl Spencer was my lover' story on the front page – and coverage in the Star, Mirror and on Sky and GMTV, Max certainly does the business. Although not all publicity is good publicity – see page 14...

Edge stands corrected

Apologies to Software Creations, which remains the sole developer of the powerful *Picture Maker* application for Nintendo's forthcoming 64DD. Additionally, **Edge** would like to clarify that Enix's *Bust A Move* (E53) will not be published outside Japan under that name, due to it being shared with the western version of Taito's *Puzzle Bobble*.

continued

MAYA MAKES WAVES FOR ALIAS

Set to revolutionise the creation of high-end graphics when released in February, Alias Wavefront's new *Maya* suite of software has been exclusively demonstrated to **Edge**. Designed to ease the arduous tasks associated with 3D modelling, *Maya* is a powerful, multi-faceted package that removes much of the minutiae associated with computer animation – without sacrificing the required high quality.

Despite its complexity, however, *Maya*'s emphasis is on keeping the software user-friendly. In preparation for release, a beta version has spent the last six months in the hands of 50 trusted animation and movie studios. The feedback gained has been used to fine-tune the program, but already *Maya* has been incredibly well received. Indeed, the producers of 'Earth: Final Conflict' (a series conceived by 'Star Trek' creator Gene Roddenberry) have already used the *Maya* beta to produce visual effects for the series.

'We've spent a long time talking to our customers, and we know they don't have a lot of time to learn a completely new system' explains **Mark Gallagher**, Director of Marketing and Channels at Alias. 'Obviously the depth of *Maya* will require some learning, but if people want to be productive quickly it can be done.'

Gallagher puts *Maya*'s ease of use down to its 'Maya Embedded Language' (MEL) operating system. MEL enables the user to create animations or objects which are then stored within a menu system for later use – much like *Quark Xpress*' Library system. The aim is for users to build up a menu of pre-stored items specifically tailored for their own ease of use. For example, when animating a figure, a basic movement can be loaded, then tailored to requirements through the addition of extra frames.

An icon-based 'push/pull' system enables the user to focus on specific sections of the rendered model. The selected area can be moved individually, or in conjunction with another part of the body. Gallagher showed **Edge** a rendered female figure, moving her ankle though a preset axis, with the software automatically correcting the position of her hips and overall stance. 'In other packages, you'd have to alter every moving part of the body,' he grins.

Alias Wavefront is also expanding the package's abilities with *Maya Artisan*, a similarly user-friendly tool. 'With *Artisan* we are trying to use a familiar painting paradigm, and apply it to other things that were hard to do in 3D and character modelling,' Gallagher explains. '*Artisan* features several main attributes. You can sculpt and paint surfaces, add weight to objects, and preset MEL scripts relating to geometry and dynamics.'

Returning to the demonstration figure, he illustrates the power of *Artisan*, setting her into motion, her dress shifting and moving perfectly. 'Unlike other software, Artisan will compensate for joints on the body, and ensure there are no obvious joins between limbs,' Gallagher says proudly. Facial animations are another *Artisan* speciality. If the muscles around the mouth are pulled out to start the smile, Artisan uses the settings to make those around the eyes and chin move in relation.

The *Maya* suite is an impressive package, giving the 80-strong team every right to be proud of what they've created. 'We genuinely feel as if we have removed some of the more painstaking elements of character animation,' smiles Gallagher. Something of an understatement; it's clear that *Maya*'s potential is incredible – a definite step forward for computer animation. And if Alias Wavefront has its way, *Maya*'s impact will soon be felt by games players across the globe. E







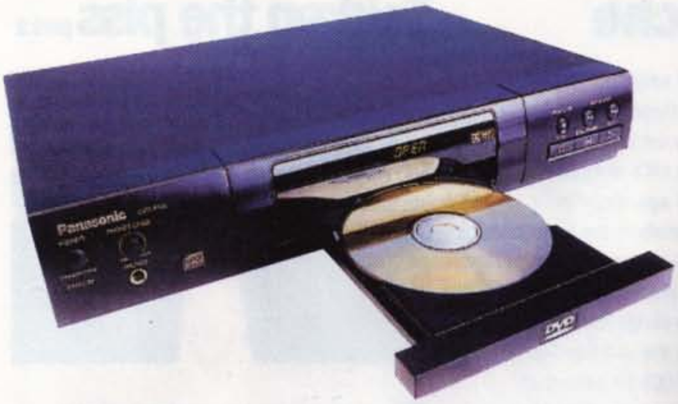
This selection of images created by Alias Wavefront's beta testers show spectacular quality. Expect quality to rise as designers mould the software package to suit their needs

continued

Sony cheats – official!
Sony's Japanese magazine division has released a new publication – Memory Card Data – which comes with a covermounted CD-ROM containing hidden characters, later levels and other saves to copy onto a memory card. It has many different saves for over a hundred PlayStation games and, claims Sony, is aimed at what it politely terms the 'less hardcore' gamer.

Nintendo crashes on route 007
Nintendo's attempted court action against leading guide publisher Prima has fallen at the first legal hurdle. Nintendo sought an injunction charging Prima with copyright infringement for maps printed in Nintendo Power in the book Prima's '*GoldenEye 007*: Unauthorised Game Secrets'. Judge William L Dwyer found that the maps were factual material and not protected by copyright, the reasoning being that anyone making accurate maps of a game are likely to make very similar ones. Of course, the fact that Prima's books often go head-to-head with Nintendo's own on the shelves had nothing to do with the action…

Publish and be damned?
The German Independent Self-Rating Organisation has said that *Quake 2* is too violent and could be harmful to young people. Anyone found selling the game in Germany, where the depiction of blatant violence against humans is considered offensive, could face prosecution. Publisher Activision is reviewing the situation, but



DVD DIVISIONS CONTINUE

The internecine fighting over the future of digital storage continues, with different members of the self-appointed DVD Forum offering alternative formats. The ten-company group has officially agreed a standard for an erasable DVD, known as DVD-RAM, but Forum members Sony and Philips have simultaneously developed a rival format, DVD-RW.

At the heart of DVD-RAM is phase-change technology which utilises a rare-earth metal coating on the disc that switches between amorphous and crystalline states when hit by a laser. Giving a capacity of 2.6 gigabytes on a disc, compared to the 4.7 gigabyte capacity of prerecorded discs, DVD-RAM recorders will be on sale shortly in Japan, with Toshiba, Hitachi and Panasonic all planning machines in the very near future.

The rival re-writeable DVD, Sony and Philip's DVD-RW, differs from DVD-RAM in the way it spins, the former aping the constant angular velocity of a computer hard drive. The DVD-RW discs will be able to store up to 4.7 gigabytes, like conventional discs, and should be compatible with other DVDs and CDs. These benefits have attracted Hewlett-Packard, Yamaha and Mitsubishi who have all backed the format.

A major problem facing both DVDs in the short term will be the limited compatibility with previous DVD players. In the longer term, some form of brand standard needs to be established before it can hope to replace CDs, videocassettes and CD-ROMs as a medium of choice. E

it seems unlikely that iD will make the necessary changes, and the game – like *Duke Nukem 3D* before it – could be absent from the biggest PC leisure market in Europe.

One nation under GOD

Gathering Of Developers (GOD) is a new venture, set up by ex-Ion Storm CEO Mike Wilson, that aims to be a kind of developers co-operative. Offering 'trust and expertise', GOD's aim is to establish 'a new status quo for developer-publisher relations,' in the titles it acts as co-publisher for. Given the seemingly endemic infighting between some corporates and creatives in both the US and UK, Wilson could well be on to something.

EDGE SINGLES OUT THE WINNERS AND LOSERS IN THE INTERMINABLE BATTLE FOR VIDEOGAME CRED

(game on)

Two quite beautiful words: **Gran Turismo**.

The Face, for demonstrating it has a rather better understanding of videogames than Empire, with its own barometer registering 'The James Bond game rules' last month.

FIFA: Road to the World Cup '98 made it to Christmas number one for the fifth year running – and, unusually, almost deserved to be there.

Yoshi's Story, for faling to live up to Edge's high expectations and simultaneously undermining confidence in a company that could always be counted on as a sure-thing…

The **Christmas period** which saw a spectacular 70 per cent increase in software and hardware sales over last year's figures.

Sega, for letting its 32bit flagship console die an untimely death in America – where it sold just 100,000 machines last year…

BMG's media stunt, organised by Max Clifford to promote *GTA*. Outraging the mainstream press over game violence is just about the last thing the industry needs right now.

The embarrassing **hardware shortages** which afflicted Sony over the Christmas period which saw many a desperate parent beg shop owners for the impossible: to supply them with a PlayStation.

The embarrassing **software shortages** which afflicted Nintendo over the Christmas period, which saw many a desperate parent beg shop owners for the (almost) impossible: to supply them with a copy of *GoldenEye*.

Gran Turismo, for consuming so much of **Edge**'s time, showing a complete disregard for the magazine's deadlines, and luring far too many undesirables into the magazine's office space.

(game over)

(out there)

REPORTAGE FROM THE PERIPHERY OF THE VIDEOGAMES INDUSTRY

Nintendo's Pokemon headache

Blurred vision. Vomiting. Seizures. Trips to the hospital. No, it's not the **Edge** team's Christmas but symptoms brought on by TV Tokyo's 'Pokemon' cartoon, derived from Nintendo's all-conquering *Pocket Monsters*. When the 'Computer Warrior Porigon' episode was aired on December 16, all was well – until about twenty minutes into the half-hour show.

The monster characters had made their way into a computer and set off a vaccine bomb to destroy a virus. The subsequent explosion was then followed by flashing red lights coming from the eyes of Pikachu – a rat-like Pocket Monster – which triggered an epileptic reaction from 600 or so Japanese children with around120 hospitalised overnight. All of them are expected to recover.

The ensuing media fallout made headlines around the world, the UK included, and even caused Nintendo's stock price to dip the following day, with shares suspended at one point. Reaction was stranger in the US, where one well-informed journalist even attributed the cases of photo-sensitive epilepsy to the 'mature themes' of Japanese animation. Undeterred by the controversy, the American rights have already been snapped up and the show will be syndicated throughout the US – with the offending scene cut out.

Judged alongside the UK's own epilepsy in games scare a few years ago, the affair is unlikely to damage Nintendo in the long term. The ubiquitous monsters are easily Japan's most popular Christmas present this year by a substantial margin – two songs from the 'Pokemon' show were in the yuletide Top 40 and around ¥400 billion (£3.19 billion) of Pocket Monsters related merchandise was sold by the end of December.



Tekken the piss part 2



The most absurd game-related object to arrive at the **Edge** office this month has to be Namco's 1998 calendar. Featuring the 'Tekken Philharmony Orchestra', this beautifully finished and theoretically useful item depicts the contestants from the superlative beat 'em up playing in a classical orchestra.

Imagine, for a minute, Heihachi and his son Kazuya, as the conductors, Marshall Law on the piano, Paul playing the tuba, King surrounded by choir boys and perhaps the most outrageous of all, Kuma the bear on the drums. The whole package is topped off with the pseudo-philosophical yet slightly contradictory message, 'A game is over, but the game is not over'. Quite...

Crash diet



The above advert, which features cute PlayStation icon PaRappa the Rappa discussing the meaning of life over a bowl of sushi with tacky American stablemate Crash Bandicoot, can be found gracing the pages of major Japanese magazines. It's part of a Sony campaign promoting a new-found harmony between eastern and western videogame mascots (or something like that). **Edge** speculated over how the conversation might be going:

PaRappa: Crash, there's something you should know while you're visiting my country. We all think you're crap. (ends)

Heroines can really screw you up...

The bad news is that the Lara Croft-inspired trend in pixellated titilation shows no sign of abating. Überpommeister Larry Flint recently published a 'nude' centrefold of the eponymous heroine of 'UltraVixen' in one of his adult mags.

Not to be outdone, German mag neXt Level (sic) employed its own scantily-clad digital centrefold – *Pandemonium 2*'s Nikki, a 22 year old who clearly moonlights as a... DJ (right). Yeah, right. The same magazine even carries a *Tomb Raider* II ad featuring Lara Croft sporting skimpy underwear. No doubt such blatant political incorrectness will cause much tossing and turning for German gamers not yet jaded by cyberbabes...





nuMedia

A meeting point for media capitalising on the digital entertainment revolution

in association with ocean

No 23

CD-ROM

Dance eJay

The arrival of yet another Euro-cheese arranger was not welcomed with great excitement by **Edge**, but *Dance eJay* has proved itself curiously amenable. Its bright, garish interface gives more than a hint as to the style of samples, sequences and drum loops it contains – that is, the ones that even the dreadful likes of Whigfield and 2Unlimited rejected on grounds of dubious taste. But if users delve around and employ their imaginations, they will find that it's easier to create half-decent quirky house tracks than they would have thought on first acquaintance with the software.

This is entirely thanks to *Dance eJay*'s completely idiot-proof interface, which is a simple drag-and-drop effort that a child could get to grips with in minutes. The thought of letting a child loose on *Dance eJay*'s bank of sounds, however, is truly terrifying. Imagine if every youth with a PC could create his or her own version of 'Barbie Girl'? In fact, *Dance eJay*'s existence goes some way towards explaining the sinister appearance of that vile track.

Ultimately, *Dance eJay* is no more than a toy. Those who find themselves using it to explore different song structures and so on will soon tire of its limited raw materials. It is possible to export samples to it, but its completely inexcusable lack of a digital effects box – an absolute must when you're forced to fiddle around with other people's musical elements – means that users will need at least one other musical software package, and if they're going to have to splash out, they might as well pick up a copy of *Cubasis*. Nevertheless, *Dance eJay* is cheap, relentlessly cheerful, teaches the very basics of electronic music production in a fairly useful manner and, above all, is great fun to play with. Don't expect it to propel you straight onto 'Top of the Pops', though. Even if you *do* have a cute, fluffy, blonde vocalist at your disposal.



- **Published by Fast Trak**
- **£25**
- **Developed in-house**
- **Out now, PC CD ROM**

The Music File '98

When the original version of *Music File* came out over a year ago, **Edge** marvelled at the sheer weirdness of the title. Yes, a huge database of music artists, albums, record labels and retailers does sound useful – but only until you actually attempt to use it. The underlying idea seemed to be to pick out a few desired albums and then order them over the internet from one of the many online record shops. The only problem was that it was impossible to be sure whether the shop in question had ever even heard of the works – let alone stocked them.

But Pinnacle Software has persevered, perhaps because the original product was modestly successful. *Music '98*, then, adds 29,000 new artists and 600,000 new tracks to its database, which can be searched by artist, song, music type and a variety of other cross-referenceable subjects. It also adds a new section named 'collection' which enables users to drag items that they actually own across from the database, creating a catalogue of their own record collections. Add to this a huge list of high street music retailers, music magazines, record labels, DJ's and live venues and you have an admirably extensive UK music resource.



- **Distributed by Pinnacle Software**
- **Published by Fast Trak**
- **£15**
- **Out now, PC CD-ROM**

Music

KI-OKU
T Kondo & DJ Krush
Sony



A leading light of Tokyo's post-hip hop scene, DJ Krush ranks alongside the mighty DJ Shadow, who shares Krush's ability to wander off to the extreme corners of sound and atmosphere while still underpinning all the experimentation with solid, inventive beats. This latest venture sees Krush collaborating with veteran jazz trumpeteer Kondo for something that initially sounds like yet another middling update of that musical form, but ultimately brings the best out of both the artists. Indeed, the bluesy melodies, delicate syncopated drum patterns and scratches make a compulsive after-hours cocktail.

Decksanddrumsandrockandroll
Propellerheads
Wall of Sound



Last year, the Propellerheads exploded onto the music scene with a superb debut, 'Dive', and a string of subsequent hits including, 'Take California', 'On Her Majesty's Secret Service' and the anthemic 'History Repeating' featuring Welsh diva Shirley Bassey – all of which are on the album. Two other stand out tracks are 'Bang On 1' and 'Velvet Pants' which boast some great lyrical cuts.

Although a keyboard, drums and a set of decks are The Propellerheads' tools, to describe their fast, fat and exhilarating sound as big beat is too general a term. This album has a license to thrill and goes beyond the call of duty.

Gadgets

Philips CD-RW Recorder

As most audio purists will no-doubt attest, cassette tape as a means of replicating an audio CD is pretty poor. MiniDisc is one hell of a lot better, though it's still not quite CD quality. So what better way of making a copy of a CD than onto CD itself? Such is the thinking at Phillips, the dutch electronics giant which has just released this, a CD-R and CD-RW (CD Recordable and Re-Writable respectively) audio component designed to fit within a separates system, enabling owners to make copies of their CDs to play in the car, or to back up a precious vinyl collection onto CD to keep the black stuff in pristine condition. Slightly anal, yes, but no doubt worthwhile to those with valued vinyl.

Recording is simplicity itself, especially when recording one disc in one go, rather than making personalised CD compilations – with just three quick button presses the process is initiated. Recording takes place at a single, standard speed, and there are a couple of minutes which have to be wasted at the end of each recording while the image on the CD is finalised. However, it's every bit as easy as recording onto tape, or MiniDisc for that matter, and with blank CD-R discs available from Dixons for just £4, this is a great way of making precise CD copies.



● £500 ● Out now ● Philips, Tel: 0181 689 4444

Gadgets

Sony Mavica MVC-FD5 Digital Camera

Anyone who has actually used one may be surprised, but digital cameras are anticipated to be the 'next big thing' in consumer electronics. Dixons now stocks them, and the company anticipated selling thousands over the Christmas period, which, given their limited abilities, is an stounding figure.

The Mavica from Sony is, on the face of it, one of the most sensible choices for anyone who wants to be able to take digital still images and get them onto the PC with the minimum of fuss. This is because Sony has decided to ditch flash memory cards as a means of temporarily storing images, and decided to use the humble floppy disc instead. Which means the user can go out, take some pictures, and then simply eject the disk from the camera and slot it into the computer, downloading the images in seconds. It certainly makes a lot more sense than a serial link, both in terms of speed and convenience.

Unfortunately, the quality of the images that the Mavica manages to produce aren't quite up to the standard achieved by similarly priced digital cameras. The CCD is a 380,000 pixel job and the 4.8mm automatic exposure lens just doesn't seem adequate. Still, as far as ease of use is concerned, there's little to better it.

● £450 ● Out now ● Sony, Tel: 0990 111999



Fallen Angel
Prism
Sublime



Recording under his Prism monicker, Japan's Susuma Yokota starts off with slow, dreamy electronica that draws from Jazz and dub, and – thanks to sparse, clicky and very unusual percussion – brings to mind a Japanese version of Matt Herbert in his Dr Rockit guise. But halfway through, Yokota ups a few gears, and strays into more familiar drum 'n' bass territory filtered through precise, clean, Far Eastern sensibilities. As he likes to create objects of beauty rather than just tracks, this makes gorgeous Sunday afternoon listening. Very Zen, and very futuristic.

Timber
Coldcut
Ninja Tune



Not an album as such but a varied and absorbing collection of remixes based on 'Timber': the post-ambient masterwork from last year's 'Let Us Play' album. While seven versions of the same song may not sound too promising to the non-clubbing punter, there is easily sufficient depth here to sustain interest. The Clifford Gilberto mix, for example, seems to stray completely from the blueprint into sleazy jazz territory, while Journeyman plays with a 'Deep Forest'-style vocal cut over sparse breakbeat. Interestingly, CD ROM footage of the accompanying four videos is also included. ▶

Film

Legend of the Overfiend box set

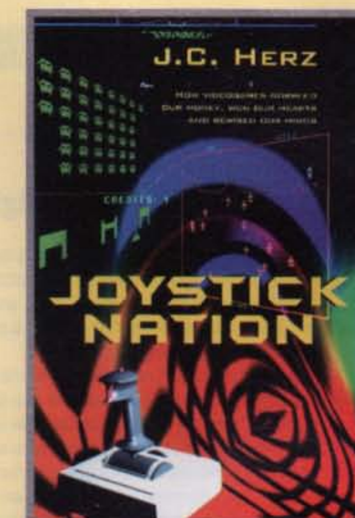


Of the many anime films that invaded the British video market in the late-eighties, 'Akira' and 'Legend of the Overfiend' were perhaps the key standard bearers. While the former showcased the poetry and artistry inherent in Japanese animation, the latter – filled with graphic sex and violence – was a disturbing glimpse at its darker moments. At least the complex and apocalyptic plot is typical anime, revolving as it does around demons (raping and slaughtering humans), man-beasts (watching) and ancient legends (something to do with the anticipated appearance of a great ruler who has the power to unite the human, man-beast and demon worlds). What saves the film from endless blood and guts is the high-school love story which houses the main human characters and provides a surprisingly humourous framework for the action. Rarely in the Western canon do scenes of blood-spattered death mix so easily with embarrasing schoolboy crushes. Ultimately though, 'Overfiend' – presented here with its unintelligible sequel – is a sordid, often mysognositic work which fascinates and repulses in just about equal measures.

● Directed by Hideki Takayama ● Cert 18 ● 190 mins approx ● £25 ● Out now

Books

Joystick Nation



Inspired by David Scheff's legendary chronicle of Nintendo's fortunes, 'Game Over', right down to its subheader 'How videogames gobbled our money, won our hearts and rewired our minds', 'Joystick Nation' attempts to cast a much wider net, encompassing countless topics, from retrogaming to the beauty of *Doom*, to the impact and contribution of Japanese game designers, and more besides.

Logically enough, it starts at the beginning, with a chapter devoted to the origin of videogaming and an entertaining interview with the true father of the pastime (no, not bloody Nolan Bushnell, but Steve Russell, the man responsible for the PDP-1 game *Spacewar*) and ends just about where the industry is today in technological terms.

Is it possible to tell the story of videogaming – taking in all the aspects that have defined the phenomenon, inspired it, and shaped it since its inception 36 years ago with *Spacewar* – in one volume? Well, no – or at least not in the mere 234 pages author J. C. Herz has at her disposal here. And that,chiefly is the rub: unlike Scheff, who concentrated on one aspect of the videogame industry and researched it to near breaking point, Herz merely skims the surface. Not that she would admit this – indeed she offers up her own supposedly authoritative theory at every opportunity (example: 'Cartridges did to the videogame what the Pill did to sexual politics in the 1960s').

The author's own experiences of videogaming forms a common theme throughout this book, and with such a vast tapestry upon which to focus, Herz would have perhaps fared better had she approached it from a more personal level, recounting more of her own and others' experiences from their journey through what has become one of the most dynamic entertainment mediums known to mankind.

And 'Joystick Nation' would be a more acceptable read were the text not so tainted with a wealth of inaccuracies ('*Donkey Kong Country 2* [was] the swan song of 16bit videogames'; '*Frogger* had more ways to die than any other videogame before or since'; Rob Hubbard is listed in the book's index as 'Ron Hubbard'), horrendous sweeping generalisations ('CD-ROM games are notorious for causing drastic malfunctions in system software'; 'arcades in the 1980s were... filled with smelly teenage boys'; pen-and-paper RPGs such as *D&D* were 'played in the dark... by brainy, ill-socialised teenaged boys'), and depressingly naive claims – according to Herz, *Cool Spot* was 'a shockingly good game'.

Books about videogaming are painfully thin on the ground, and ultimately 'Joystick Nation' serves merely to demonstrate how rich a vein the medium is as a topic worth writing about – if only it were handled with an expert touch. Consider this: not one single mention is made of Shigeru Miyamoto throughout this book's entirety. Instead, Hertz chooses to focus exclusively on American figures. At one point, Hertz recalls a meeting with Eugene Jarvis, revealing the *Defender* and *Cruisin' USA* author's state to be one of apparently near-uncontrollable arousal.

The fact that 'Joystick Nation' has received frothy praise from mainstream-media reviewers serves only to underline how little those outside of the industry understand the medium. Herz's effort had the potential to be a tool of enlightenment to those individuals, but it falls way short of the mark. The ghastly Eighties cover artwork should be enough to put anyone off.

● J. C. Herz
● Abacus
● £9.99
● ISBN 0-349-10723-8

Music

The Early Years

Future Funk

Plastic City



Beneath the hackneyed title and unpromising packaging lurk ten clean, precise tracks which marry house sounds to techno sensibilities – the sort of stuff Plastic City is building a fine reputation on. Vocals are rarely present, and things are generally kept pretty minimal (barring the odd trancier excursion), but jazzy cues – which never descend into jazzy noodlings – coupled with top-notch percussion and distilled essence of funk add up to a brew which will attract passing interest the first few times you listen to it, before lodging in your brain with a vengeance. Insidious in the best possible way.

BIG IN JAPAN

- THIS MONTH...
- MSX NOSTALGIA
- BIOHAZARD PADS

SPOTLIT THIS MONTH: RETROGAMING TAKES A NEW TWIST AS DELEGATES GATHER FOR THE VERY FIRST **MSX WORLD EXPO, FEATURING NEW GAMES** AND NEW PERIPHERALS FOR THE LONG-GONE FORMAT. PLUS, *BIOHAZARD* DEVOTEES GET SPECIAL EQUIPMENT

MSX Appeal

Although most computer users are resolute in their efforts to keep up with the relentless thrust of contemporary technology, some stragglers inevitably find themselves left behind - which perhaps explains why the first ever MSX World Expo has recently been held in Japan...10 years after the standard officially bit the dust.

It is not hard, however, to understand why this 8bit format has survived with such a strong cult following. The MSX series of home computers, designed by ASCII corp and Microsoft (who provided the OS), first appeared in 1982 and were immensely successful in Japan as well as some areas of Europe (Russia, France, Spain, etc) and South America. Rather like 3DO, ASCII Corporation designed its Z80-based machine as a standard platform and licensed the technology out to the likes of Sony, Yamaha and Toshiba who all produced updates of the computer (including the MSX2, MSX2+ and MSX TurboR) until the format eventually ran out of steam in the late eighties. Most importantly, though, the MSX was an excellent games platform, despite having only a meagre 3.58MHz of processing power at its disposal – classics including *Metal Gear*, *Castlevania* and *Virtual Hydlide* made their debuts here.

As for the expo itself, an incredible 20,000 MSX fans turned up to the event, which was held at the University of Technology in Chiba. And, surprisingly, they weren't all misty-eyed retro freaks wandering around reminiscing about how good games were in the olden days. The platform still seems to be very much alive – if only on a modest scale. Dozens of new peripherals were shown off at the event, including a SCSI-2 adapter (which allows MSX owners to use the latest printers), internet connectors, graphics cards and even a re-programmed version of Windows 3.1 – all developed by enthusiasts, rather than multinational corporations.

As for games, dozens of new titles were revealed at the show, including several clones of familiar SNES and Megadrive classics. A version of *F-Zero* (named *F-Nano*) showed up, for example, as did *Rolling Thunder* and a bootleg *Sonic the Hedgehog*. And if that wasn't enough, one exhibitor was touting a Famicom cartridge adapter which enables MSX users to run pukka NES carts – not as improbable as it sounds, as both machines are based on the same processor.

It would of course be easy to dismiss MSX Expo '97 as the irrelevant meanderings of a luddite underclass, but the infatuation with ASCII's machine is significant – and it's spreading. Fans of the machine turned up from all over the world – including Brazil, Holland, Spain, Korea and Russia – and Konami has recently released a compilation of its key MSX titles, including the hugely influential *Metal Gear* series. And if the forthcoming PlayStation title *Metal Gear Solid* lives up to the hype it is currently generating, many more 32bit gamers could be tempted back to the MSX platform to experience the game's origins.

Although retrogaming has played a significant role in shaping the direction of the videogame industry for several years, the interest in this machine is almost unparalleled. **Edge** finds it hard to believe that in ten years time there will be much of a 3DO retro scene – but of course by then, if Hollywood sci-fi films are anything to go by, everyone will be plugging virtual reality games directly into their heads and indulging in networked cyber-orgies.

To find out more about MSX, the gamut of fan sites dedicated to the computer on the World Wide Web are good places to start. Two of the best are at: **http://www.msx.org/mrc.html** and **http://www.cs.vu.nl/~syoung/**

What Ascii did next...

An indication of how huge *Biohazard 2* is expected to be in Japan has just come from none other than the originator of the MSX format, Ascii Corporation. The company is releasing a customised version of the PlayStation joypad which has been designed solely to make playing Capcom's zombie-filled adventure more enjoyable. As well as placing the shoulder buttons in the centre of the device and enlarging the square, circle, triangle and cross buttons, the veteran hardware designer has added a grip to the left arm so the whole thing can be held like a gun. And if that wasn't enough, all the buttons are labelled with their *Biohazard* functions, saving players from the abject misery of having to glance at the manual.













The MSX computer (bottom row, left and right) may well be dead, but it's certainly not forgotten – as the first ever MSX World Expo recently proved. Amongst the treasures on offer at the event were a new clone of Nintendo classic *F-Zero*, imaginitively named *F-Nano* (top row, third picture from left) and various peripherals designed and built by amateur enthusiasts



Ascii's specialist *Biohazard 2* joypad is designed to be held like a gun. Apparently, this is more comfortable

Netscape: Welcome to Netscape

netview

EDGE'S EXAMINATION OF THE INTERNET AND ONLINE GAMING SCENE

Quake II gets patched up

Quake II patches are already appearing on the Web. They offer everything from a smart new look for players' clans to portable missile defence systems.

Like its predecessor, *Quake II* is a remarkably open program. Keen coders can add their own features to the game – something that would send the likes of Nintendo into apoplexy. Good patches are quickly spread via the Net and installed on servers worldwide. *Quake* eventually saw radical overhauls, such as *Quake Rally* and *Quake Football*.

Early *Quake II* patches are more down-to-earth. One of the first comes from id Software itself, and improves multiplayer gaming across the Internet. Elsewhere, 3D card manufacturers have been quick to add patches smoothing *Quake II* on their hardware. And Ritual (who cut its teeth making *Quake* add-ons before starting on its own game, *SiN*) has also got back in the game. An early criticism of *Quake II* is that team players find it hard to appear distinctive, since the colours are far less bright than in Quake. Ritual is offering a whole new set of colourful unisex skins for downloading.

But in the long-term, the bulk of the work will be done by amateurs and much of it will be wildly inventive. For example, *Powerball 2* updates the popular patch that turns *Quake* into a futuristic teamsport. It's slightly reminiscent of the Bitmap Brothers' *Speedball*, but is far less free-flowing. (The players have a habit of regularly disintegrating). *Battle of the Sexes* pitches male against female, ironically exploiting id's egalitarian gesture of introducing skins for both sexes. And don't miss the Anti Missile Defence System, which can bat away all incoming projectile weapons – even nails in *Quake*.

Of course, there will always be a demand for new levels for id's latest creation, official or otherwise. Pure deathmatch levels were sorely missed in the boxed copy of *Quake II*, but you'll find loads springing up on the Net. Edge suggests Walnut Creek CD-ROM and Stomped as fruitful hunting grounds for new levels. Another good bet is 5thD's *Quake-to-Quake 2* map conversion utility. There's nothing like premature nostalgia.

The speed with which patches have appeared for *Quake II* demonstrates just what id Software has done to foster the much-missed bedroom development scene. Sadly, unlike the old 8bit days, most of the programming seems to happen in the States. Where are the UK's *Quake* hackers?





Quake II could soon meet the Star Wars universe. Fans and LucasArts lawyers alike should visit http://www.quake2.com/roost/ for more information





Open code and the one of the biggest development communities outside of a Microsoft office is what makes *Quake II* so open to invention

Ritual can be found at www.ritualistic.com. *Powerball* is at www.planetquake.com. *Battle of the Sexes* is located at www.quake2.com/spinoza while the anti-missile defence system resides at http://www.furness1.demon.co.uk/quake/mds/index.html. 5thD are at http://www.portal.ru/quake2/index.html. Walnut Creek is at www.cdrom.com and Stomped is at www.stomped.com

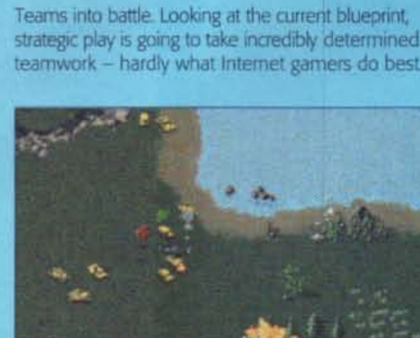
There can be only one

What made Westwood's *Red Alert* such a hit on the Net? Surely commanding huge armies of tanks, troops and planes and seeing them swarm over your inadequate foes, whether they were in Luton or Las Vegas. What's strange about *Sole Survivor* – Westwood's attempt at a massively multiplayer follow-up is that players can only command one single unit, in a battlefield swarming with the assailants.

Knowing that every tank or trooper on the battlefield represents a real-life swearing and cursing human sounds exciting enough. And, by collecting the power-ups scattered across the huge maps, players can build single units into something resembling Rambo. The fact that their units are as vulnerable to a well-placed grenade as your foes could be considered somewhat less compelling.

The chaotic multiplayer game suggested by the title *Sole Survivor* is unlikely to thrill many. Luckily, the Capture the Flag mode sounds far more promising. *Sole Survivor* becomes more like paintball, with two or four huge teams making elaborate plans to break through the enemy defences, only for things to degenerate into an enjoyable bunfight.

Perhaps the biggest potential problem is that *Sole Survivor* doesn't have many of *Red Alert*'s better features. If there were even half-a-dozen troops to command, *Red Alert* veterans would have jumped at the chance to lead their own elite A-Teams into battle. Looking at the current blueprint, strategic play is going to take incredibly determined teamwork – hardly what Internet gamers do best.



Sole Survivor looks exactly like Red Alert. On the battlefields though, it's a different story

Sole Survivor is slated for a UK release by Virgin in early March. Expect it to be mid-priced at retail, and for Westwood to set up a new server for gamers on this side of the Atlantic. Support from the likes of Wireplay is also possible

prescreen

A roll call of the newest arrivals in the world of videogaming

Faster pussycat...

Accelerated PC games are setting the pace for early '98

At last. After suffering the various dire graphics standards that have afflicted their machines, thanks to 3Dfx and Power VR PC users can hold their heads high in gaming circles. Not only do these accelerator cards bring previously undreamt-of graphical muscle, they achieve it at a relatively low cost. And with future developments set to offer even greater punch-per-pound, the situation looks rosy.

Happily, there are several titles in development – plus a few currently available – that use the power of the 3D cards to good effect; creating credible worlds to *aid* gameplay, not hide the lack of it. *Incoming* from Rage, prescreened this issue, is perhaps the most visually impressive 3Dfx title yet seen, and hopefully its smooth, exceptionally detailed visuals will underpin its action/strategy gameplay – if anything, simply because it's so clear what's going on onscreen, unlike in most titles of this type. Treading similar ground to Cyclone Studio's *Uprising*, *Incoming* will run unaccelerated – but the experience pales in comparison.

Two other promising pieces of entertainment, *SiN* and John Romero's *Daikatana*, utilise modified versions of Id's proven *Quake* technology – the later now using the *Q2* engine. Both look to have pushed back the boundaries of what can expected from the first-person genre, with a variety of new settings. As *Quake 2* proves, the gulf between the hardware and software versions of such games is ever widening.

While it may seem that certain genres are more suited to acceleration than others, 3D cards are helping to create new sub-genres. 3D action/strategy games, such as *Incoming*, are perfect examples and others will doubtless follow. Purer strains of the strategy game are also making use of the technology – witness Maxis' *Sim City 3000* (prescreen next issue), which will feature a totally 3D environment.

Sympathisers to **Edge**'s unrelenting argument for gameplay over graphics need not worry – there is to be no weakening of its stance. Such titles are exciting because they represent everything that is good about advances in gaming technology. Put simply, such games have been made possible by their visuals, not hindered by them, just as *Super Mario 64*, *Doom*, *Ridge Racer* and *Virtua Fighter* were in the past. Not all of the new accelerated PC titles may scale the heady heights of that roll-call, but at least they'll have a helping hand.





***Quake 2* has been one of the most impressive hardware-boosted titles so far (left). Rage's *Incoming* (centre) and Ritual's *SiN* are at the forefront of the new, optimised generation**

Index

Edge's most wanted

The videogames making waves before their arrival







1	2	3	4	5
Legend of Zelda	**Resident Evil 2**	**1080° Snowboarding**	**R-Types**	**Grim Fandango**
(N64) Nintendo	**(PS) PlayStation**	**(N64) Nintendo**	**(PS) Irem Software**	**(PC) LucasArts**
Given the latest shots, Nintendo's forthcoming potential masterpiece is looking capable of easily rewriting the action RPG genre upon its release.	Although **Edge** expects to find few gameplay changes, current indications point to an even more spectacular and gripping gore-fest.	NCL's interpretation of the coolest sport around should turn more heads than its 1996 sleeper hit *Waverace 64*. Beautiful and breathtaking.	The greatest shoot 'em up ever created is reborn. But can it live up to the promise of being arcade perfect? **Edge** can't wait to find out.	Yet more top-class point-and-clickery from the maker of *Monkey Island*. Strong character design and plot should ensure similar success.

PRESCREEN ALPHAS

EDGE PRESENTS THE LATEST SHOTS OF NINTENDO'S MONOLITHIC TRIO, WHILE RESIDENT EVIL 2 CONTINUES TO SHOCK ON PLAYSTATION, AND SILVER ADVENTURES ONTO PC















These latest screenshots of the imminent *1080° Snowboarding*, in development at NCL, should convince anyone still doubting the potential of this superb-looking title. New additions appear to include a half-pipe mode as well as a promising stunt course








Legend of Zelda: Ocarina of Time is rapidly achieving the kind of status only associated with truly groundbreaking titles, although it still looks likely to surpass most players' expectations. After the disappointing *Yoshi's Story*, Edge is almost apprehensive about plugging in the massive 256Mbit cart the day it reaches its offices, should it fail to deliver what it has promised over the past few months





Still slated for a June release, *F-Zero X* continues to impress as these new shots attest. Possibly one of the most impressive aspects of the game footage so far seen by **Edge** has been the sheer number of vehicles on screen at any one time, with no evidence of any drop from the 60fps update









Ocean has confirmed their 'strategic adventure game', *Silver*, for release on PC this autumn. Featuring the adventures of five heroic characters as they battle against a mighty sorcerer, the game is being developed by Tribe, Ocean's in-house team. Early indications are of a title with RPG aspirations, although each character has 24 different combat attacks, implying more of a hands-on approach



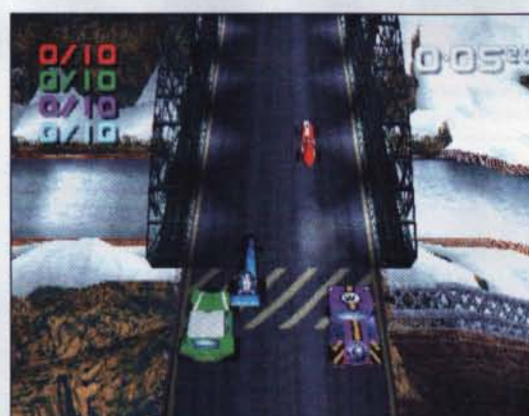




Clearly drawing its inspiration from the *Resident Evil* series, Takara's latest PS creation, *Crisis City* boasts an impressive roster of movie influences, from 'Terminator' to 'Lethal Weapon'. The varied arsenal on offer suggests a title definitely leant toward combat. Expect a twoplayer mode to be included











While the original *Supersonic Racers* was eclipsed by *Micro Machines V3*, Mindscape's claims the sequel, *Circuit Breakers*, has been significantly enhanced. PlayStation racers will be able to rely on a variety of dirty tricks



David Braben's *Virus 2000* continues to improve and impress. This updated classic has been confirmed to be published by Grolier Interactive, and retains – as revealed in last issue's feature – the original game's controversial control system. The forest setting has perhaps the strongest visual appeal of the levels seen so far



Offering gamers the dubious facility to drive 'classic' Japanese cars from this century's most tasteless decade, Epoch-sha's *Greatest 70's* has been recently released, rubbing bumpers with Sony's superb *Gran Turismo*



New images from Japan reveal that *Resident Evil 2* (aka *Biohazard 2*) is bursting at its seams with fresh horrors for players to face. The variety of environments continues to impress, as does the detailed design of the assorted foes. Barring a catastrophic delay, **Edge** will review the game next issue



Arriving just as **Edge** went to press were these new images from Namco's Playstation conversion of *Tekken 3*. Alex the Crocodile has met his match...



Sentinel Returns now supports 3Dfx. **Edge** can report that the gameplay remains intact, although the front-end is unusal to say the least (left)








Take 2 Interactive's contribution to the burgeoning PC 3D strategy genre is *Armor Command*, created by *X-Wing* designer, Edward Kilham

This Voodoo 2–specific title, *Shot*, from Finland's Housemarque Games, looks simply stunning. Employed by 3Dfx to wow the crowds at Comdex recently, *Shot* currently lacks much in the gameplay department, although half–a–million polygons can't be wrong, surely? Tentatively pencilled in for release in early '99



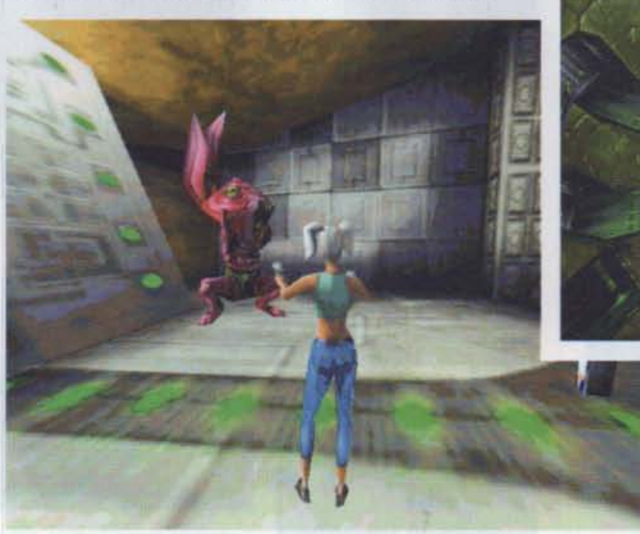







As the release of triple-A titles for the Saturn slows to a trickle, *The House of the Dead* (shown here) and *Burning Rangers* (see p50) are left to uphold the platform's honour. While *THOTD* made for a diverting blast in the arcade, the console version of *Virtua Cop 2* may have proved enough for Saturn owners

Postal developer Ripcord has signed this unusual PC platform adventure, *Space Bunnies Must Die*, to be released late in the spring. Created by US team Jinx, the game follows the vengeful quest of a buxom waitress, Alison, as she searches for the Space Bunnies that have killed her sister. Bizarre...






Ocean's second new title this month is *Jest*, an N64 platformer created by UK developer Curved Logic. The central character, Jax, must battle through the world of 'Humorous', meeting other jokers along the way. Expect a second quarter release

















While Tecmo's *Dead or Alive* has, as yet, failed to make a UK appearance on the Saturn, the hi-res PlayStation version (shown here) should stand a far better chance. **Edge** wonders if the tacky and implausible animation of the female protagonists' chests will survive the translation

First shown at last year's ECTS, the promising *Actua Ice Hockey* from Gremlin is now the official ice hockey simulation of the '98 Nagano Winter Olympics, featuring all of the top international teams







TEKKEN 3

Converting the most successful beat 'em up of all time is not a task to be taken lightly. With many forecasting a near arcade-perfect conversion, Namco is taking its time to make Tekken 3 an assured PlayStation hit



The use of spot effects to accentuate certain blows is a technique Namco is keen to continue using. Expect lighting effects aplenty



Tekken 3*'s backdrops are far cry from the sparse arenas found in *Tekken 2

After many months of speculation, Namco has finally released screenshots of PlayStation *Tekken 3*. After a wide variety of rumours – including, bizarrely, talk of an upgrade cart a la Saturn *VF3* – early demos suggest that the Japanese softco is aiming to make its triple-A beat 'em up as close to its arcade parent as possible.

Namco has eschewed the traditional 'beat 'em update' formula for *Tekken 3*, as favoured by Sega and especially Capcom. Instead, the Japanese softco chose to set the *Tekken 3* tournament twenty years after *Tekken 2*, with the majority of the combatants cast as the children of *Tekken 2* characters. A few original fighters return older and wiser but, in a typically poor beat 'em up plot twist, Nina Williams returns having spent the intervening years as a guinea pig in a cryogenic experiment.



Predictably, the offspring of *Tekken 2* participants inherit characteristics and moves from their parents; *Tekken 3* has an eminently familiar feel, sure to please its predecessor's adepts. With the *Tekken* standard of left or right punches and kicks, each fighter has an array of basic attacks. However, combination moves are the key to success. From simple two-button acts of aggression to complex button and pad sequences, each tournament participant boasts an impressive arsenal of offensive moves. Perfecting *Tekken 3*, like the two games before it, is only possible by developing a quick recall of assaults appropriate to any given moment. And, of course, mastery of the juggle.



Jin, son of Jun. An increased polygon count allows for his impressive physique

Format:	PlayStation
Publisher:	SCEE
Developer:	Namco
Release:	Summer '98
Origin:	Japan





With *VF3* now unlikely to appear on the Saturn and the N64 lacking beat 'em up clout, *Tekken 3* is easily the biggest fighting game of '98







Like its predecessors, *Tekken 3*'s camera intelligently adjusts to follow the action. Once again, it reinforces the illusion of three-dimensional gameplay

When fighters are knocked over, a brief delay before they hit the ground allows their opponents to begin a combo. Timed correctly, this results in a perfect 'juggle' – each hit preventing the recipient from reaching the relative safety of terra firma – and a hefty drain on the prone character's energy gauge. Though hardly true to real-life combat, it's the 'juggle' move that separates good and merely average *Tekken 3* players. Its importance is hard to overstate.

THOUGH HARDLY TRUE TO REAL-LIFE COMBAT, IT'S THE 'JUGGLE' MOVE THAT SEPARATES GOOD AND MERELY AVERAGE TEKKEN 3 PLAYERS

Equally devastating is the multipart throw or hold. Once a player has successfully grabbed an opponent, another button sequence will lead to a further, optional, section of the attack. However, unlike the frustrating (and inescapable) juggles, players performing multipart grapples can be hit with counter moves. The timing of these is crucial, but if successfully executed they break the attempted grapple immediately, often with a counter punch or kick to punctuate the escape.

Of course, subtle gameplay mechanics might escape the attention of the public were they not clothed in suitably impressive visuals; snaring the attention of jaundiced gamers is near impossible without that killer hook. Yet first impressions would suggest that sacrifices have been made. There's a discernable angularity to its tournament contenders, and an inevitable reduction in polygon count. However, Namco is determined to retain the 3D backdrops of the arcade original even though many developers regard 2D 'postcards' as a necessary evil in order to maintain a high frame rate.

Converting what is still – a year after its release – the most popular and successful beat 'em up in Japan, Namco has remained cautious in its dealings with the gaming press. The first pictures released show immense promise; Namco's coders are obviously relishing the challenge of porting System 12 code to PlayStation hardware.

With no release date confirmed at the time of going to press, a Summer release seems most likely at present – underlining Namco's desire to ensure the biggest beat 'em up release of '98 is as polished as possible. PlayStation owners will demand no less.





As with all fighting games, a raised arm is sufficient to ward off the most powerful of blows

SiN

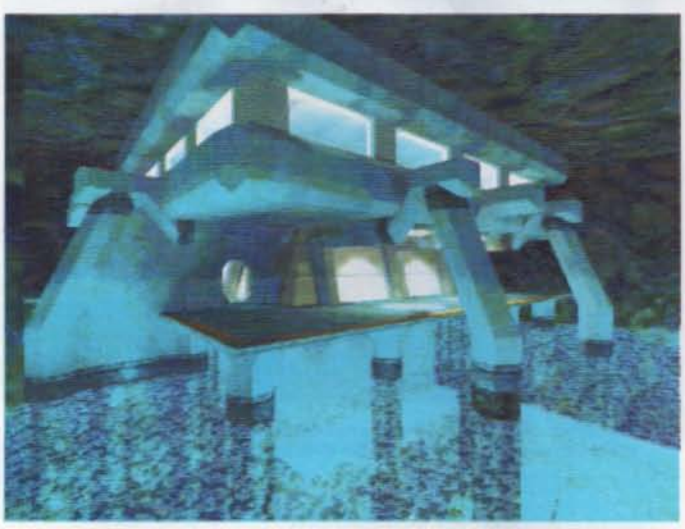
WITH THE QUAKE 2 ENGINE BEING A NEW BENCHMARK FOR ALL FIRSTPERSON SHOOT 'EM UPS, IT'S SURPRISING THAT ONE OF 1998'S MOST PROMISING FIREFIGHTS IS POWERED BY THE AGING QUAKE CODE...





SiN **contains non-aggressive characters. These can be attacked if the player wishes...**







Ritual's game will run without hardware acceleration (Pentium 150 minimum spec) but the 3Dfx version (above) is preferable

Format:	PC
Publisher:	Activision
Developer:	Ritual
Release:	March '97
Origin:	US

A list of Texas-based codeshops would be a veritable Who's Who of firstperson shoot-'em-up developers; id, Apogee/3D Realms and John Romero's Ion Storm all call the state home. *SiN* developer Ritual Entertainment is the new addition to the illustrious Texan neighbourhood. Set up by former Apogee staff, Ritual was commissioned to develop a *Quake* mission pack by id while based in programmer Jim Dosé's house. The fruit of its labours — Activision's *Scourge of Amargon* — provided the requisite funds to begin work on *SiN*.

Using an enhanced version of McCormack's *Quake* engine, *SiN* — like many of its forthcoming rivals — boasts impressive visuals. But Ritual realises, quite rightly, that offering aesthetic splendour alone will avail *SiN* little in an increasingly crowded genre.

'If you do something on one level, it will







The detail found in *SiN* rarely fails to impress. Like Activision stablemate *Half Life*, it pushes the limits of the *Quake* engine in both software and accelerated forms

affect you in later levels,' explains Ritual producer Joe Selinske. 'We call this 'action based outcomes'.' Selinske's example is a scenario in which, should the player fail to prevent a water supply from being poisoned, later levels are populated by mutant guards. Prevent the catalyst, however, and standard security guards take their place. Firstperson shoot 'em ups are linear by nature; by including variable elements, Ritual is hoping to

FIRSTPERSON SHOOT 'EM UPS ARE LINEAR BY NATURE. BY INCLUDING VARIABLE ELEMENTS, RITUAL IS HOPING TO MAKE SIN A MORE DYNAMIC GAMING EXPERIENCE

make *SiN* a more dynamic gaming experience.

'We want to have a much more interactive environment,' explains Selinske. 'Different levels will let you interact with vehicles. One warehouse level will have this forklift you can get into and drive around. And you'll be able to pick up boxes and stack them so you can get to an area you couldn't get to before. We're going to try and have it so you can use vehicles to plough right through a door that is locked off.'



SiN*'s characters have a higher polygon count than those of *Quake

Like *Quake 2* and *Jedi Knight*, *SiN* is far more plot-led than the majority of shoot 'em ups, with its story progressing in tandem with on-screen endeavours. However, like LucasArts' title, it doesn't necessarily follow that every in-game character is a gore-hungry assailant. Ritual is keen to include an admirable amount of incidental detail – animated machinery and workers going about their business are just two examples. *SiN*'s locations are far more sophisticated than *Quake*'s somewhat shallow levels.

'We want to create much more realistic places that you can identify with,' says Selinske. 'We're not using the same textures for multiple levels. We do share *some* textures, but basically, every level has its own set of graphics to create a completely different look for each level.' Such effort in creating unique environments can be extremely beneficial, as *Duke Nukem* creator 3D Realms discovered — the key strength of their title is its admittedly dated but effective locations.

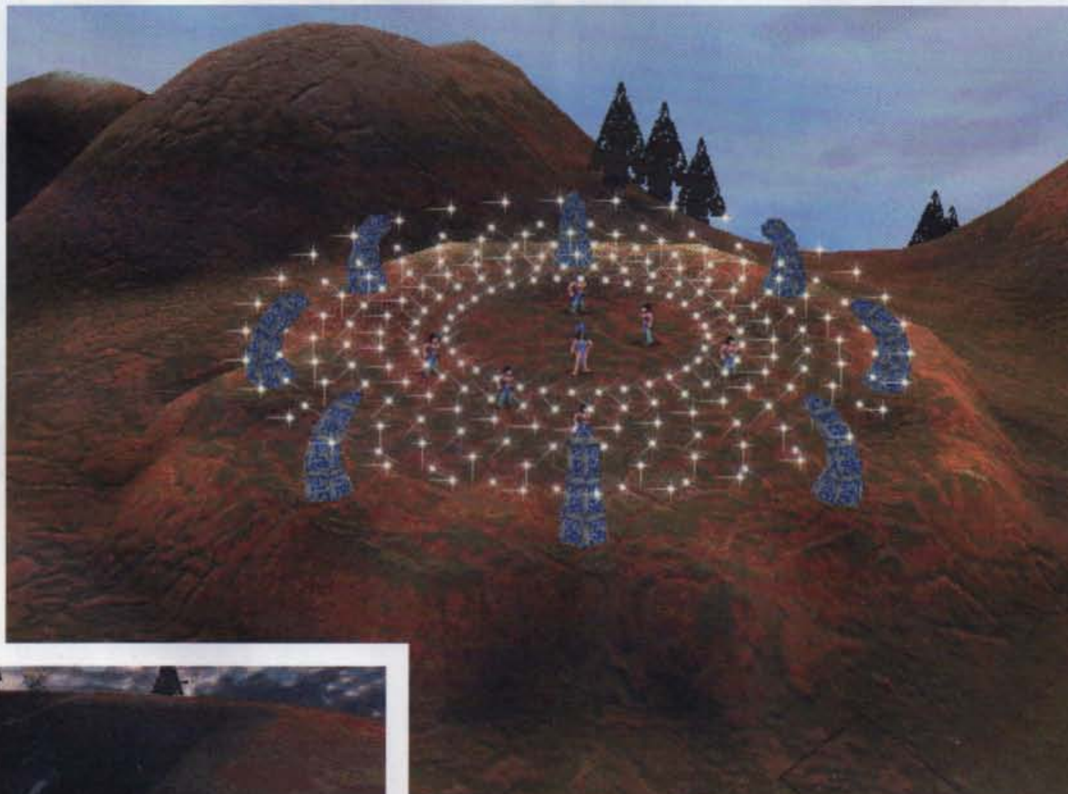
With *SiN* appearing, on paper, to be a halfway house between *Quake 2* and Rare's *GoldenEye*, it comes as no surprise that many PC owners are eagerly awaiting its release. As one of the last games to utilise the aging *Quake* engine, it's an appropriately high note for Romero's code to bow out to.



Given the shoot 'em up genre's affinity for esoteric weaponry, it's a fair bet Ritual's final cache of armaments will be as varied as they are devastating

POPULOUS: THE THIRD COMING

BULLFROG, CREATOR OF THE 'GOD GAME', IS RETURNING TO ITS ROOTS AND RESURRECTING THE POPULOUS SERIES. ALONG WITH AN ALL NEW 3D LANDSCAPE, MAJOR CHANGES HAVE BEEN MADE TO THE GAMEPLAY. EDGE DIGS DEEPER...









When the player's 'disciples' preach to the game's 'wildmen', gatherings form. Given the range of magical effects found in the first two *Populous* games, Edge anticipates a similarly impressive breadth of options

Format:	PC
Publisher:	EA
Developer:	Bullfrog
Release:	March
Origin:	UK

Following on from its first preview in **E**46's special supplement, further details of *Populous: The Third Coming* have been confirmed. Creating an update to the first God game ever made has not been an easy task – development was started over 24 months ago by lead programmer Alan Wright. In many ways, *PTTC* is Bullfrog's most important game in years, being the first new title from the company since the departure of its founder, Peter Molyneux. So, with the game's March release date rapidly approaching, **Edge** took the opportunity to needle *PTTC*'s associate producer, **Pete Blow**, for further details of how the game will play.

'The game is quite different to the earlier games. The direct control is the main contributor,' begins Blow, 'We have tried to make the game as accessible as possible with an ultra-intuitive control method.' Bullfrog has tried to keep the control within the confines of simply using the mouse, rather than a multitude of modifier keys. More importantly, the player takes direct control of a 'disciple' who then preaches to the native 'wildmen'. 'The new control method allows the player to have a greater influence over your followers than in the original games. We feel that this improves the game a great deal.' The reasoning behind the shift is to increase player involvement in the game, although **Edge** doesn't particularly remember *Populous* lacking in such areas.

Through controlling the disciples, the





Players can zoom out to the world view (top) to see the state of play





Populous: The Third Coming **contains a fantastic variety of landscapes. The texturing for this barren, sandy scene is particularly impressive (bottom)**





Moving around the planet, the land rolls over the curved horizon as it comes into view





With up to four gods vying for control, play should prove frantic

'wildmen' can be organised into groups, and from that point buildings can be created. Pete Blow elaborates: 'When you command a group of people to do something, they do create formations as they travel around the landscape. If people are being preached to by a disciple, they will sit on the floor listening in groups.' Certainly, watching some of the scenes is remarkably reminiscent of real-life religious meetings, and are undoubtedly intended to encourage belief in the player's 'god' among the game's population.

The switch to three dimensional landscapes is certain to cause consternation among real-life *Populous* believers. There was an almost Lego-like quality to the worlds of the first two games in the series, now replaced by polygonal scenery. However, according to Blow, this has done much to free-up exploring and navigating the environment: 'You have the ability to scroll around anywhere on the landscape. The curved view makes it feel as if you are moving over a planet.'

New multiplayer options have been added to *PTTC*. As in the single player mode, games can take place against more than one rival. 'The game has been designed with the multiplayer very much in mind. Players must battle it out against each other in the same way as the single player game,' clarifies Blow. While such options are still relatively unused in the UK, PC titles are considered incomplete in America if network play is not included, and so was an inevitable inclusion for *PTTC*.

IN MANY WAYS, PTTC IS BULLFROG'S MOST IMPORTANT GAME IN YEARS, BEING ITS FIRST NEW TITLE SINCE THE DEPARTURE OF ITS FOUNDER, PETER MOLYNEUX

Many key players on the development team are Bullfrog stalwarts, with experience on titles such as *Populous 2*, *Magic Carpet 2*, *Syndicate Wars* and *Theme Hospital*. Such illustrious parentage bodes well for *Populous: The Third Coming*, which, judging from first impressions, is set to top its class.



Triggering a volcanic eruption is more of an event than in *Populous*



INCOMING

Spectacular visuals too often cloak inferior gameplay, so can Rage's title equal the achievement of Quake 2, using hardware acceleration to successfully launch into orbit?



Get ready for take-off. Successfully defending the Space Shuttle is rewarded with a well-executed, real-time cut sequence depicting it blasting off. Prior to that, players can gracefully loop around the base





If the game's final incarnation plays as well as it looks, *Incoming* will deserve to succeed



With allowance for 3D accelerators fast becoming a de facto option in modern PC games, it was inevitable that a new superleague of titles would emerge; those that would only be playable with such cards installed. Among the forerunners of this new breed stands Rage's *Incoming*, one of the most visually accomplished PC games **Edge** has seen.

Incoming's basic premise casts the player as a pilot defending various installations from alien attack, although its execution offers far more depth than that description suggests. Featuring a varied collection of operable attack craft, from helicopters to tanks, *Incoming* boasts a realtime blend of combat and strategic elements, although its emphasis is tilted toward intense action.

Offering 65 levels, currently spread across six different environments (although the count continues to rise), Rage's creation should certainly score well in the longevity stakes. Many of the settings are highly inventive in their conception, particularly the Cape Canaveral defence scenario; the 60% complete version seen by **Edge** was impressive, with craft flitting agilely about a set of lovingly detailed launch-ready Space Shuttles – although the drawing-in of distant scenery is sudden. However, Rage is confident that such issues will have been rectified by the time *Incoming* is launched.

Spot graphic effects, particularly explosions and smoke trails, are among the best seen on any format. The shockwave rings that echo out from around annihilated targets, similar to those pioneered in *Turok: Dinosaur Hunter*, are especially noteworthy. Lighting effects are also deployed to remarkable effect; a running demo of the moon stage features an orbiting space craft



Initially, the player has control of a helicopter before other options become available

Format:	PC
Publisher:	Rage
Developer:	In-house
Release:	March
Origin:	UK



Control of several different weapon systems is on offer, including these gun turrets (above). The smoke that trails from projectiles is superbly animated

in near-darkness, light just catching and glinting off the edges as it spins.

While the expected PC network play options have been ticked-off on *Incoming*'s generous options list, a split-screen twoplayer mode has also been included. Although standard for many console games, simultaneous two-player action is sadly lacking from many PC titles – *Incoming* should provide PC owners with a welcome dose of such face-to-face rivalry.

Gamers will also be able to choose between tackling a full version of *Incoming*, suitably replete with strategy elements, and a pared-down arcade iteration. The tactical aspects are accessed through a separate 'overview' screen, enabling players to issue commands to the various forces at their disposal; craft already confirmed for







INCOMING OFFERS A REALTIME BLEND OF COMBAT AND STRATEGIC ELEMENTS, ALTHOUGH ITS EMPHASIS IS TILTED TOWARDS INTENSE SHOOTING ACTION

Incoming's swelling arsenal include Cobra and Commanche helicopters, plus torpedo boats, tanks and fighter planes.

Rage's development team is working at full tilt to imbue *Incoming* with as many features as possible, prior to the game's release date. By then gamers should expect a title that gives Cyclone Studio's excellent *Uprising* (eight out of ten, **E**52), rather more than a run for its money. **E**





As yet, only one type of explosion has been implemented. It's beautiful to watch, however





Each of the various terrains creates its own set of challenges and foes to be overcome

NEED FOR SPEED 3

After a groundbreaking debut on the ill-fated 3DO, the Need For Speed series has lost the impact that once put it at the cutting edge of racing simulations. Can this third installment recapture the franchise's former glory?





While the last PlayStation outing for *Need for Speed* proved particularly disappointing for anyone familiar with the 3DO original, EA Canada has listened to the criticism and promised to have addressed the game's major problems, in particular the flawed and unrealistic handling of the vehicles

When it originally appeared on the 3DO at the end of 1994, *The Need for Speed* caused a sensation among driving game enthusiasts and to this day remains one the best examples of the genre. The PlayStation interpretation lost some of the realism and excitement in the translation process and as such cannot contest the above claim. Its sequel (despite offering new courses and boasting an even more exotic collection of vehicles), was bitterly disappointing, with unrealistic physics models and unexciting track design.

NEED FOR SPEED 3 USES ITS PREDECESSOR'S 3D ENGINE, BUT IMPROVEMENTS – PARTICULARLY IN THE VEHICLES' HANDLING – ARE EXPECTED

Having taken the criticism of its last venture on board, EA Canada looks determined to set things right in the latest addition to the series. *Need for Speed 3*, then, features eight new supercars, from the mid-eighties classic angular lines of the Lamborghini Countach to the majestic curves of Ferrari's latest, the 550 Maranello.

The game uses its predecessor's 3D engine, but improvements, particularly in the vehicles' handling, are expected. Dynamic lighting is also included and promises to be one of the most striking additions to the series, with a car's headlights illuminating the road and its surroundings, and police vehicles emitting the ominous red and blue light rays when chasing speeding motorists. Indeed, the majority of additions have resulted from an unprecedented level of attention to detail for EA's supercar-infested series. Weather effects such as rain, thunderstorms and snow are included with the corresponding spray off vehicles' tyres; the sky will feature moving clouds, roadside trees cast shadows and leaves will blow across the track, for example.

The AI too, has also been tweaked so that opponents react aggressively if cut-off or tailgated, and up to three police cars now

Format:	PlayStation
Publisher:	EA
Developer:	In-house
Release:	March '98
Origin:	US



Naturally, *Need for Speed 3* features a whole new series of vehicles such as the Ferrari 550 and all have different handling characteristics





NFS3 **features new camera modes. However, a view from the car's rear remains as default**



Need for Speed 3**'s night sections offer impressive new features, with realtime dynamic lighting used for the cars' headlights and the police rooftop 'blues'**





chase CPU-controlled drivers as well as players, displaying several levels of aggression including bumping speeding vehicles off the track, setting up road blocks and using the 'Sting' – a metal rail strung across the road so as to puncture a car's tyres. This should turn fleeing from the authorities into a far more frantic, realistic and therefore exciting affair, something that was perhaps lacking in the earlier versions.

Other additions include four new in-game cameras and three more replay views, restricted access to the tracks depending on the difficulty level selected, a practice mode with driving assists such as auto braking, traction control and a tutorial mode for newcomers to the series as well as an extensive series of set up adjustments for the more advanced player, which allows the tweaking of steering sensitivity, gear ratios, aerodynamics, brake balance and engine upgrades. This last feature is new to the PlayStation series and, if implemented correctly, should allow players to extract the very best of their chosen machine by selecting a set-up that most suits their style.

But the most dramatic alteration has been to the tracks themselves. Ten (and one bonus) are promised for this version, with each making more use of hills, jumps and on-road obstacles, as well as offering players the chance to undertake a variety of shortcuts and alternate routes, or to experience the unfortunate consequences of driving off the side of a cliff.

Providing EA can get the handling physics back to their original splendour and combine them with the above additions, this latest racing outing should easily redeem the failures of its predecessor and satisfy those players who still hark after a faithful representation of the superb 3DO original.



The different tracks will now feature more obstacles such as police road blocks, branching sections and realistic touches such as blowing leaves

OUTCAST

APPEAL'S NEW THIRD-PERSON ACTION ADVENTURE ESCHEWS THE PLATFORMS AND BRAINTEASERS OF TOMB RAIDER AND PUTS THE PLAYER IN AN ORIGINAL FANTASY WORLD OF EPIC PROPORTIONS



There are ten different weapons in *Outcast*, including a flamethrower and a type of handheld mortar that fires explosive shells

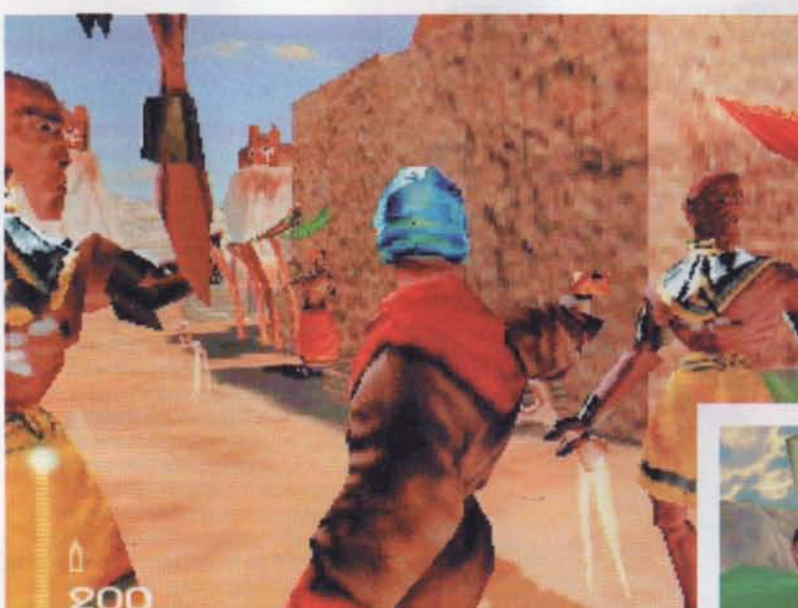




One of the concept sketches used in the creation of *Outcast's* outlandish game world

Any third-person action-adventure on the PC now faces inevitable comparison with *Tomb Raider*, but where Core's title opted for action, Infogrames' *Outcast* is very much an adventure. The story has a black hole growing between our world and a parallel universe, and the player – as ex-Navy Seal Stan Blaskowicz – is chaperoning a group of scientists investigating the phenomenon. But when he arrives the scientists and their equipment are nowhere to be seen.

'You are just alone in this parallel world and you've got to sort it out,' says producer **Olivier Masclef**. As he explores, Blaskowicz discovers temples, mountains, a vast, sprawling city, a swamp and a petrified forest, all in great detail using Outcast's voxel-based engine. Masclef explains that his team chose voxels as they, 'enable us to have very smooth graphics at a high frame rate. And the frame rate doesn't depend on the complexity of the world, so we can make it as complex as we want.'









The benefits of Appeal's voxel system: smooth characters and lack of distortion even when the protagonist, Blaskowicz, is viewed up close (above, right)

Format:	PC
Publisher:	Infogrames
Developer:	Appeal
Release:	Spring '98
Origin:	Belgium



***Outcast*'s game camera adjusts to provide the optimal view but it can be controlled manually**



The voxels also allow the design team at Belgium-based Appeal to have a greater polygon reservoir for characters than conventional textured polygons. The designers are keeping characters to around 200 polygons apiece and they're using the reservoir to put as many onscreen at once as possible. To create the characters, Appeal used a mixture of motion capture, motion blending and skeletal simulation. Masclef adds, 'We have this system called the animation mixer that enables us to mix five different body animations. You can target with your hand, rotate and walk around all at the same time which creates this sensation of complete freedom when you're in the game.'

Masclef's aim is to make the player feel like they're a part of this strange world, which

MASCLEF'S AIM IS TO MAKE THE PLAYER FEEL LIKE THEY'RE PART OF THIS STRANGE WORLD, WHICH DEMANDS A HIGHER LEVEL OF INTERACTION

demands a higher level of character interaction. 'The game is action-oriented,' concedes Masclef, 'but you've got to talk with other creatures in this world too. There are a lot of other 'creatures' like farmers and merchants in the cities. We've got a system called GAIA (Games Artificial Intelligence with Agents), which is a simulation of the whole society. GAIA manages all the interaction between the farmers, soldiers and priests of the civilization.'

The agents referred to in the acronym are pre-programmed behaviours – 'I want to eat' or 'I want to protect myself' – that blend together in GAIA. In a given situation, GAIA will determine the correct behaviour for individual characters. So, farmers are more passive than guards and therefore have no qualms about running away from a fight.



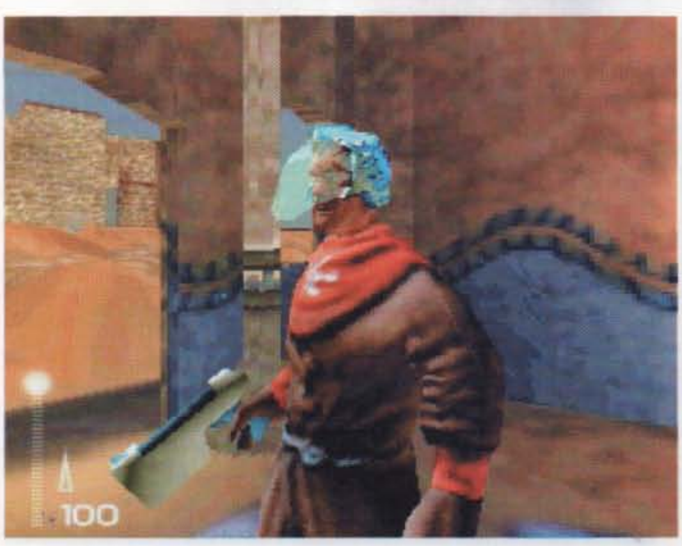






Blaskowicz investigates one of *Outcast*'s alien creatures, a bizarre half-camel, half-ostrich that can be used to ride around the world

Appeal's 18-man team are now close to finishing *Outcast* and the broad scope of the story is complimented by an epic score performed by the Moscow Symphony Orchestra. For Masclef, the two years' work on the project is bearing fruit: 'I'm really happy with this strange world we're creating,' he says with a broad grin. 'It is a mystical world coming to life, day after day. It is really impressive.'



The temple architecture in *Outcast* has a distinctly north African flavour about them (above and right) with their domed roofs and stucco decoration





RASCAL

Having set a Saturn benchmark with Sonic R, UK developer Travellers Tales makes its PlayStation debut with Rascal – a visual showcase targeted at the younger PlayStation owner







No self-respecting developer would consider releasing a PlayStation game without exaggerated lighting effects, Travellers Tales included. *Rascal*'s spot effects, however, are some of the best seen on Sony's console





One of *Rascal*'s less impressive assailants, a rather ineffectual (not to mention ugly) robot

Format:	PlayStation
Publisher:	Psygnosis
Developer:	Travellers Tales
Release:	April '97
Origin:	UK

It becomes ever more apparent that the PlayStation is no longer the sole preserve of the commercially lucrative twentysomething market. As the PlayStation's installed user base continues to grow, software aimed at a younger audience will begin to sell in greater numbers. Pysgnosis, recognising this, is aiming *Rascal* at a more youthful Sony devotee.

Rascal is, without doubt, a striking game to behold. Travellers Tales' technical abilities are unquestionably excellent, especially after its work for Sega; *Rascal* is yet more confirmation, as if it were needed, that envelope-pushing code is its forte. With crisp, clean visuals, real-time light sourcing and environment mapping, *Rascal*'s technical specifications will impress all but the most cynical of observers.

Originally due for a Christmas '97 launch, Psygnosis chose to delay *Rascal*, allowing time to flesh out its core gameplay. Unusually, *Rascal* eschews the wide open spaces of *Mario 64* and (to a notably lesser extent) Fox Interactive's *Croc*, favouring room-based maps. Keen to avoid the disc access delays that plagued Argonaut's title, Travellers Tales has chosen to make each level a collection of small locations, divided by doors, most likely based on the reasoning that a steady number of brief loads is less intrusive than infrequent (yet larger) breaks in play.

A platform game *Rascal* may be, but certainly not in the *Mario 64* sense. Each room has a set 'floor' level, with room furniture and various hazards to negotiate. The eponymous main character comes equipped with a bubble gun, used to dispatch various mobile foes, with these respawning after a brief delay. Coupled with a number of generic platform game traps — including projectiles fired



Transparency effects are rapidly becoming commonplace, but Travellers Tales' *Rascal* boasts visual trickery of an impressive standard







Rascal's water effects are arguably the best achieved on the PlayStation to date. Its ultra-smooth animation is of a similar high quality

from walls, swinging spikes and lava pits — there are many possible (and familiar) deaths for young Rascal.

Like many platform games, *Rascal* is brazen in its open usage of tried and tested gameplay features with little regard for innovation. However, one touch is linked with its otherwise superfluous plot — the use of a time travel theme. Certain levels are set in what is essentially the same location, but in a different era. For example, the Pirate Galleon level of the

LIKE MANY PLATFORM GAMES, RASCAL IS BRAZEN IN ITS OPEN USAGE OF TRIED AND TESTED GAMEPLAY FEATURES WITH LITTLE REGARD FOR INNOVATION

past is visited during a battle, rediscovered during the present as a shipwreck and seen in the future half-buried in the sand of an apocalyptic landscape.

As with seemingly every platform game over recent years, considerable time has been dedicated to *Rascal*'s main character. The 'Rascal' of the title is, as screenshots attest, a rather clichéd figure, complete with the almost obligatory reversed cap and shades. At present, he is only capable of running, jumping and firing, but Travellers Tales are considering giving him the ability to walk. No doubt Jim Henson's Creature Workshop — designers of the *Rascal* figure — will be involved in this process. However, there are clearly better lead characters than this, and one problem *Rascal* could potentially encounter is that players may have little affinity for the figure they control.

Bizarrely, *Rascal* owes more to *Atic Atac* – one of Rare's best-loved adventures from its Ultimate days – than, say, *Croc*. The small rooms, reappearing assailants and basic object collection of *Atic Atac* can all be found in *Rascal*. Such simplicity could either be its greatest triumph or its biggest failing; for *Rascal* to be a success, its final two months in development could prove to be the most important of all.





Rascal's bubble gun can be used to dispatch most assailants. These respawn within a few seconds

DIE BY THE SWORD

Featuring an innovative control method, Die by the Sword is an ambitious first project for new American codeshop, Treyarch. Edge bares its blade and ventures forth...









Die by the Sword's **physics-based animation means that foes attacking differently during every encounter, increasing its replay value considerably**





At this stage, the caverns are somewhat bare, but improvements will be made before release

Format:	PC
Publisher:	Interplay
Developer:	Treyarch
Release:	March '98
Origin:	US

Avoiding comparisons with the *Tomb Raider* games will be a hard task for *Die by the Sword*, given its visual similarity to Core's master work. However, beneath *Sword*'s lookalike thirdperson viewpoint and familiar environments lies a very different and innovative game. Where Lara's exploits were essentially puzzles-plus-combat, *Die by the Sword* offers quite the opposite.

Taking control of a medieval knight as he seeks his kidnapped lady love, the player must hack and slash though an orc-filled fantasy world. Battling through its many locations, the most striking aspect of *Die by the Sword* is also its key innovation. Rather than using traditional hand-drawn or motion-captured combatants, developer Treyarch has implemented physics-based character animation (dubbed VSIM). Therefore, every movement is calculated on the fly, rather than being pre-plotted. Certainly, traditional techniques would have a hard time coping with a character hanging from a rope while swinging a sword, as seen in *DBTS*.

With the VSIM system, the hero's sword arm is controlled via mouse or numeric keypad, with attacks taking place as a series of slashes from one point to another, rather than preset swipes. After the initial mental adjustment, the sword control feels very natural. *DBTS* also features an optional 'arcade' set of controls, but these are sure to be discarded in favour of the more sophisticated defaults.

DBTS also encourages creative play. In one section the player has to steal a raft from a gang of goblins, through either making a full-frontal assault, or hiding in a nearby crate, later loaded onto the raft. If such diversity of gameplay can be found throughout its various locations, *Die by the Sword* should prove an interesting alternative for PC owners tiring of *Tomb Raider 2*.



Passing this tentacled beast is a good example of the variety in *Sword's* gameplay. Players can either lure others into its grasp, or simply attack

ARMY MEN

THE REALTIME STRATEGY GENRE CONTINUES TO GROW, WITH NEW (AND DIVERSE) BREEDS OF C&C VARIANT IN DEVELOPMENT. YET, ONLY ARMY MEN, STUDIO 3DO'S CONTENDER, OFFERS INTRICATE COMBAT WITH PLASTIC TOY SOLDIERS...






Army Men **will see players taking control of a platoon of plastic soldiers against the computer-controlled Tan army in a series of diverse missions**

Format:	PC
Publisher:	Ubi Soft
Developer:	Studio 3DO
Release:	April '97
Origin:	US

Anyone familiar with 'Toy Story' will probably vividly remember the plastic army men antics at the beginning of the Disney film. Many will also retain fond memories of many youthful days spent playing with them, no doubt secretly wishing for the chance to engage in similar activity again. Studio 3DO obviously do and will give players the opportunity to do so in April when *Army Men* – a strategy-based action game that puts players in control of an army of the plastic soldiers – is released.

As commander of the Green Army, players engage the Tan Army in up to 80 diverse scenarios, such as disabling radar installations, intercepting convoys, escaping from POW camps, and even capturing enemy agents. Success depends on the strategic deployment of troops and vehicles for each of the missions, which means paying attention to the radio transmissions, tactical radar and command data available throughout the game.

Army Men currently promises to have some of the best AI routines seen in this popular genre with computer opponents who constantly analyse a player's strategy, responding accordingly. Furthermore, units will take the physical environment and known enemy location into consideration and only attack when their numbers are sufficient. This significantly increases the chances of success whilst reducing frustration caused by similar titles that, for example, allow a whole unit to walk single file into an ambush. However, with *Total Annihilation* being the current benchmark, *Army Men* will have to offer far more than intelligent AI routines if it is to be a success.




Naturally, night time missions will feature, with stealth being crucial to their overall success

NEWMAN HAAS RACING

Psygnosis' foray into IndyCar racing builds on the successful formula established by F1 and F1 '97. But is it anything more than an Americanisation of its predecessors?



As in the earlier *F1* games, *Newman Haas* has a replay system that apes TV presentation both up close (top) and zoomed out (above)



Most players will prefer the more immediate in-car view (top). When there's a collision, the view zooms out to show the wider picture (above)



Street circuits (top) and ovals (above) showcase contrasting styles of racing in *Newman Haas*

Format:	PlayStation, PC
Publisher:	Sony
Developer:	Psygnosis
Release:	Spring '98
Origin:	UK

When the team behind Psygnosis' phenomenally successful *Formula 1* completed the project in late 1995, thoughts turned predictably to a sequel. *F1 '97* afforded the opportunity to correct the collection of bugs that tarnished the appeal of the original, and to build on a set of enhancements and additions. However, at the same time, part of the *F1* team struck out to develop an IndyCar variant on the formula, resulting in *Newman Haas Racing*.

As it works with much the same engine as *F1 '97*, it would be easy to dismiss *Newman Haas Racing* as a simple rebadging exercise, with Indycar courses subbing in for the more familiar Grand Prix circuits. But that ignores both the subtle differences between the Formula One and IndyCar disciplines, and the design input of the Newman Haas team. The fifteen tracks included encompass 11 licensed circuits and four fantasy creations, although only two of those are the characteristic oval speedways most associated with IndyCar.

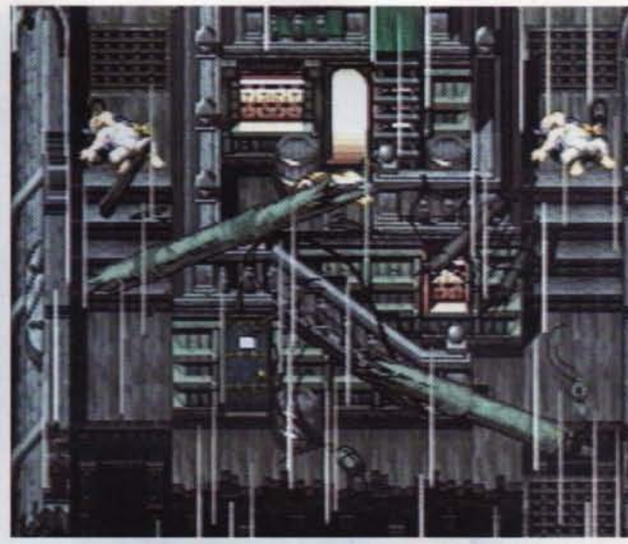
Permanent roads, similar to Formula One circuits, and temporary street circuits are more common and demand a more conventional driving style than the controlled precision of the ovals. Supplementing the official courses are a roster of 16 IndyCar drivers, notably the Newman Haas team of Michael Andretti and Christian Fittipaldi together with ex-F1 drivers, Mark Blundell and Mauritzio Gugelmin.

Commentary by US duo Danny Sullivan and Bobby Varsha – the Murray Walkers of their sport – rounds off the polished presentation typical of a Psygnosis title. However, no matter how competent a translation the basic game has undergone, ultimately its success – in Europe, at least – rests upon two things. How much of a departure is it from *F1 '97* in gameplay terms, and is the appeal of IndyCar ianywhere like as strong as it is in the US? Psygnosis will find out the answers very soon.

ALUNDRA

FINAL FANTASY VII BROUGHT THE RPG GENRE KICKING AND SCREAMING TO A MAINSTREAM AUDIENCE, WHETTING THE APPETITES OF GAMESPLAYERS WHO ENJOY A GOOD READ WHILE NEGOTIATING A FANTASY WORLD





***Alundra* will feature a variety of locations for players to explore in order to save the nightmare-ridden population of the village of Inoa from untimely deaths**





***Alundra*'s storyline and gameplay could have emerged from the 16bit school of action RPGs**

Continuing the surge of PlayStation RPG titles appearing onto the scene, *Alundra* is the latest project from long-standing Japanese developer, Climax. Although previously self-published in Japan, the European release is being handled by Psygnosis, a move which should guarantee a great deal more exposure than if handled solely by its creator.

Featuring the adventures of its eponymous hero, *Alundra* is an RPG of the 16bit era – but is none the worse for that. The central character is a boy who discovers he has the ability to enter the dreams of others. As is (sadly) so often the way with such superhuman powers, Alundra's gift proves to be something of a curse, as he is drawn into the problems of a group of villagers after an old man appears in his dreams. The inhabitants of Inoa are dying because of their nightmares, and Alundra is persuaded to help them, beginning a quest reported to offer around 50 hours of gameplay.

The player will be able to use a wide selection of items, from swords to magic rods, along with actions ranging from swimming to burrowing. *Alundra* also features over twenty large-scale 'boss' characters for the hero to contend with, each programmed with unique AI. Early impressions are that Psygnosis has licensed a very competent product – one which should arrive before the sweet taste of *FFVII* fades from the public's palate.

Format:	PlayStation
Publisher:	Psygnosis
Developer:	Climax
Release:	March
Origin:	Japan







***Alundra* uses a sprite engine throughout, making the inclusion of *FFVII*-style cinematics unlikely…**

WINGS OF DESTINY

Psygnosis momentarily ditches its obsession with dark futures to publish a visually stunning WWII flight sim. In an airspace crowded with similar contenders, GSI's WW2 sim certainly has a dogfight on its hands...









General Simulations Incorporated is aiming for the same visual realism as *Flight Unlimited*, but with exciting mission-based gameplay





The flight model for each of the four aircraft is painstakingly based on true-to-life data

Considering the success Psygnosis has had with sci-fi themed games recently, it's surprising to discover the company picking up this WW2 flight sim from Manchester-based General Simulations Incorporated (known previously as Virtek).

Based around 50 historically legitimate missions, realism seems to be *Wings of Destiny*'s greatest motivating factor. There are four accurately modelled planes to choose from, all of which apparently handle like their real-life counterparts thanks to some complex flight physics. Interestingly, General Simulations has attempted to portray both the Allied and Axis sides in a realistic light; apparently Psygnosis' German office are monitoring the development of the game and its storyline to ensure the title will appeal to the German market.

For once, this realism extends to the graphics, often a stalling-point with PC flight sims. The landscape has been created using digital elevation maps to ensure accuracy, and it looks absolutely wonderful, with detailed scenery extending limitlessly toward the horizon. Period detail has also been an important issue in the game's development. The geographic data has been cross-referenced with maps and photos of the period, which means, although a lot of the action takes place over London, players won't be able to spot such modern eyesores such as the M25 or Thames Barrier.



The game's virtual cockpit allows players to look around using the mouse – no doubt an invaluable feature during hectic gunfights

General Simulations are keen to point out that *Wings of Destiny* is as playable as it is accurate. Unlike modern warfare, the limited weaponry available to 1940s pilots led to extended dog-fights and skies filled with battling aircraft, something *WOD* will simulate. Plus, the game will support network play – a requisite for modern PC titles – and force feedback controls, adding to both realism and playability. But can Psygnosis convince its future-hungry punters that addictive gameplay does not necessarily begin in 2220AD?

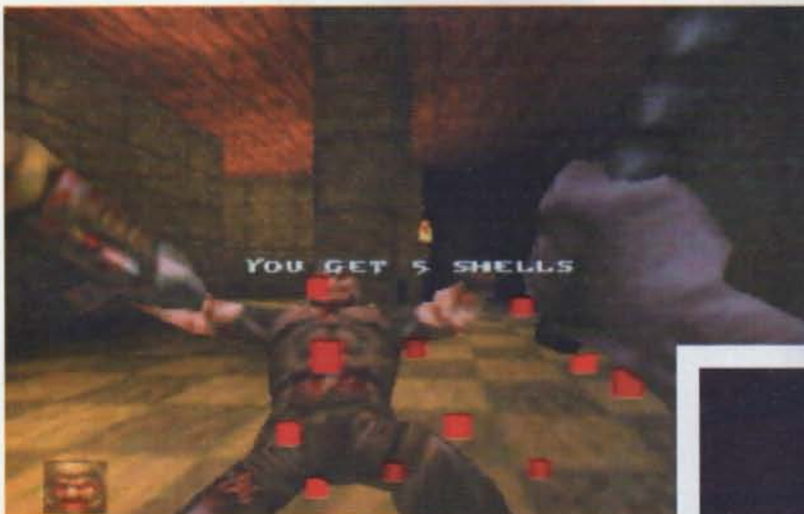


Accurate texture detail makes the landscapes realistic and appealing

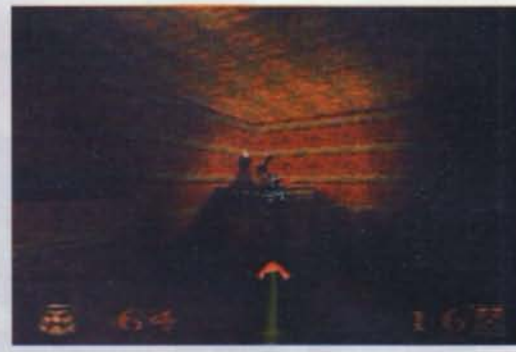
Format:	PC
Publisher:	Psygnosis
Developer:	GSI
Release:	May
Origin:	UK

QUAKE 64

AFTER RARE'S PROGRESSIVE CLASSIC, GOLDENEYE, THE DECISION TO CONVERT AN EIGHTEEN-MONTH-OLD PC CORRIDOR SHOOT 'EM UP SMACKS OF A PUBLISHER CLUTCHING AT STRAWS. UNLESS, OF COURSE, THAT TITLE IS ID'S QUAKE...



As in the PC original, *Quake*'s axe is still a clumsy weapon. Midway have yet to confirm the addition of new firepower but, with development put back by a month to add a twoplayer mode, such an 'afterthought' is likely





With *Quake* now a PC budget title and its sequel currently enjoying a favourable high-street performance, it's strange that GT should now opt to port id's classic to the N64. With firstperson shoot 'em up benchmark *GoldenEye* as its primary rival, how can id's aging blaster compete with Rare's masterpiece?

As a singleplayer game, *Quake* is loved and loathed in equal measure. Many feel its simple violence and lack of real content make it a shallow, uninspiring experience. Others, however, would have you believe it's one of the best videogames ever created – for precisely the same reasons, but with an alternative emphasis.

The alpha version of *Quake 64* sent to **Edge** reveals Midway has made certain sacrifices in order to maintain a steady 30fps frame rate. A limited amount of detail on the various *Quake* denizens has been lost, while there's currently a lack of realtime lighting from gunfire. This last omission, however, is likely to be addressed before *Quake 64*'s release.

As any *Quake* disciple would dutifully confess, id's PC original is immeasurably better when played using a mouse to look around — using the keyboard for basic movement, a mouse allows free 360° movement. A similar setup can be replicated on the N64 pad, using the analogue controller to guide head movements.

If *Quake*'s oneplayer mode is perhaps suspect, its multiplayer aspect is inspirational. *Quake 64* was originally pencilled in for an Xmas '97 release in the US without any form of group play. After an anguished response to this news from consumers and press alike, Midway delayed its conversion in order to include a twoplayer mode.

Somewhere between the software and GL versions of PC *Quake* in terms of appearance, it's debatable that N64 owners will be able to work up enthusiasm for a conversion of an 18-month-old PC game. *Quake 64*'s twoplayer mode may be its core appeal, but with Rare having significantly raised expectations, it may not prove to be enough.





Midway are currently optomising *Quake 64*'s split-screen twoplayer mode for a smooth 30fps



***Quake 64* is surprisingly dark, even compared to its gloomy PC counterpart**

Format:	N64
Publisher:	GT Interactive
Developer:	Midway
Release:	August
Origin:	US







Explosions can happen at any time and anywhere – players must react quickly and exploit their surroundings effectively if they plan to survive



BURNING RANGERS

It's somehow fitting that Sega's Sonic Team should release a game based around explosions and raging blazes. The Saturn shall not disappear with a whimper, but with a bang...

Format:	Saturn
Publisher:	Sega
Developer:	Sonic Team
Release:	February '98
Origin:	Japan

Since its prescreen in **E**51, *Burning Rangers*, the latest creation from the celebrated Sonic Team, has come a long way. The *NiGHTS* engine-based game now looks more on par with the team's previous efforts; more colourful, and not as dark as the version that garnered such a cautious reception at the last Tokyo Game Show.

The story, however, remains the same: players take on the role of a futuristic firefighter and must find their way through massive levels, rescuing any civilians they meet. Initially, players will have just two characters at their disposal, with more team members becoming available as the game progresses.

When rescued, civilians will give the player a crystal that will help rejuvenate their shield level – but frequently they will be forced to choose between satisfying their own needs or using the crystal energy to help the civilians escape. All these agonising decisions must be made against a threatening backdrop of flash fires, random explosions and collapsing scenery. If there something missing from *Burning Rangers*, tension certainly isn't it.

Edge chatted to three of the men behind the much-debated project: **Yuji Naka**, *Rangers'* executive producer, **Naoto Oshima**, the director, and **Takao Miyoshi**, its chief planner and designer.



Yuji Naka: 'Oshima-san wanted to make a game based on heroes, as he's a big fan of Superman, Batman etc'

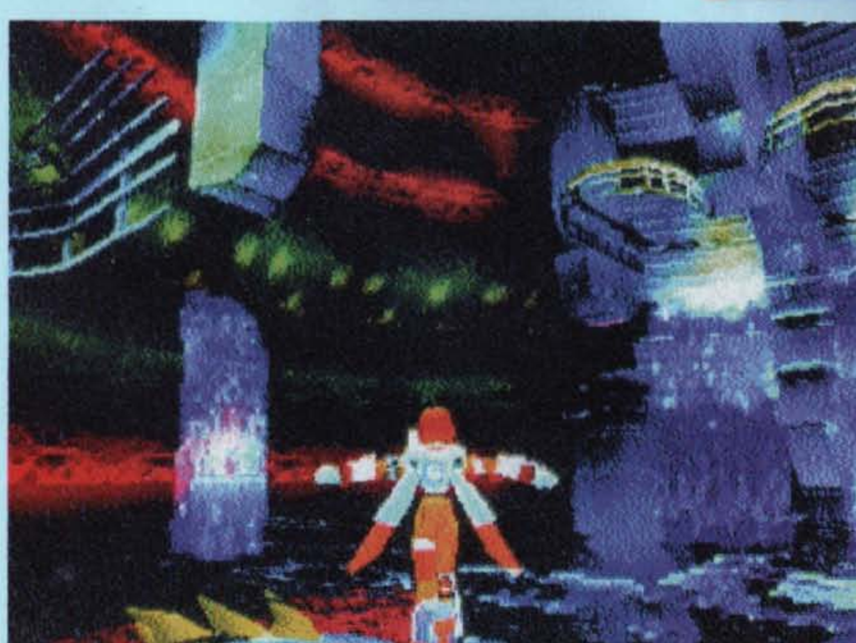
Edge: When did development start?
Yuji Naka: We started *Burning Rangers* just after finishing *Christmas NiGHTS*, which would make it around November 1996.
Edge: How big is the team, and Is it the same as the one responsible for *Nights*?
YN: Yes, it's almost identical and comprises about 20 people. The whole Sonic Team is made up of 50 members of staff, but the rest of them are working on a different project. The *Burning Rangers* team is the size of a regular project – there are bigger teams within Sega.
Edge: How complete is the game?
YN: We're currently about 80 per cent through the project and we're hoping to release it domestically in February. Abroad, it will come out roughly one month later.
Edge: It's a fairly different departure from the usual genres. Where did the inspiration come from?
YN: Oshima-san wanted to make a game based on 'heroes', as he's a big fan of Superman, Batman, et al. We thought about how to incorporate that notion into an original game and eventually came up with *Burning Rangers*. Essentially, we like to make 'soft' games but this time decided to go for something really different.
Naoto Oshima: When we made *NiGHTS*, people asked us why we hadn't opted for a *Sonic* game. And when we first showed *Burning Rangers*, we were asked why we didn't make *NiGHTS 2* (laughs). Yet as these games were made by the same staff, the message they contain is the same: they're all Sonic Team games.
YN: We wanted to make a game with a rescue theme – there are very few games based on this concept. We experimented with some code and got positive results so we began developing the game. This is our usual approach – we did the same thing for *Sonic*.

We've tried to create a good environment, atmosphere and a good level of tension. All of these parameters should turn *Burning Rangers* into something of a new game.
NO: Also, we prefer the helping concept more than the killing one.
Edge: How many maps does *Rangers* have in total?
YN: There are four maps in total. Differing dramatic events will occur; therefore, the stages are very large and we've designed the game system so that it can be played several times. A player's experience will increase progressively throughout the game.
Edge: How does *BR*'s difficulty level increase?
Takao Miyoshi: The number of events occurring increases as the game progresses, as does the size of the stages. The last influencing parameter is the navigation system. At the beginning players receive navigation help messages but as they progress through the game these will become less frequent or radio interference will prevent whole transmissions getting through. You'll have to have to find the right path on your own.
Edge: The graphical style for *Burning Rangers* is significantly different from your team's previous efforts. Is this simply due to a different designer?



Oshima: 'We prefer the helping concept more than the killing one.' An unusual stance in a post-*Postal* industry







Tillis, is one of the two controllable characters at the start of the game. The Burning Rangers team is made up of five members, all of which appear in the game

YN: No, the graphic designer is the same, it's the man sitting next to me! (laughs)
NO: Do you not think the graphics in *Burning Rangers* are similar to those in *NiGHTS*?
Edge: Not really...
YN: (laughs) That means we were successful. Our objective was to create a very different atmosphere.

WE WANT TO ATTRACT A NEW AUDIENCE, NOT NECESSARILY THE KIND OF PERSON THAT PLAYED SONIC OR NIGHTS. THE TARGET IS WIDER

TM: We also watched films in order to help recreate the realistic mood, such as 'Backdraft', for example.
YN: If you pay attention to the sound you'll notice we didn't bother with any in-game BGM and instead used some realistic sounds.
Edge: Who is responsible for the sound?
NO: Hataya-san, who was the music designer on *NiGHTS*. He's part of the CS sound team.
Edge: What was the most difficult aspect of the game to realise?
YN: The navigation system was difficult to implement. Also, until now, no voices had been used in Sonic Team games but for *Burning Rangers* we had to include all of the help messages.



The team has reworked the original demo shown at the Tokyo Game Show and this latest version shows a clearer use of colour and lighting

Edge: Did you experience technical difficulties?
YN: We really enjoy our work so I wouldn't call them 'difficulties', rather 'challenges'. The transparency effects, for example, were a challenge. As the Saturn isn't able to do this effect we had to program them.
NO: The light management was also difficult to perform. We played around with blues and greens to give the game a nicer appearance.
Edge: Who is *Burning Rangers* aimed at?
NO: We want to attract a new audience, not necessarily the kind of person that played *Sonic* or *NiGHTS*. The target is wider. However, *Burning Rangers* will retain elements that are characteristic of the Sonic Team. We still care about the same things: style, feeling, etc. Players should recognise the Sonic Team touch immediately. E







Trapped survivors are scattered throughout the game's extensive levels and need to be rescued



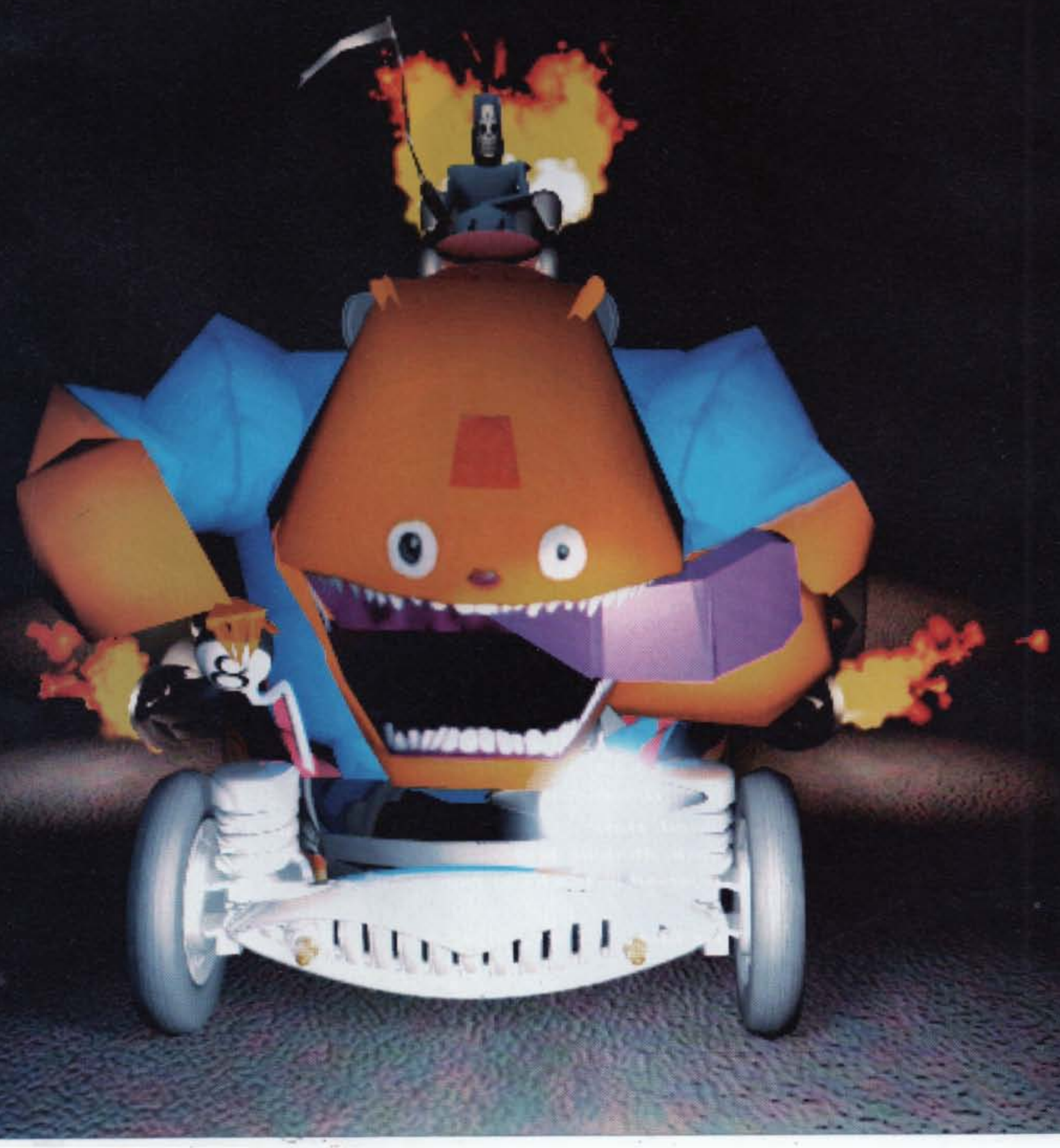




The Saturn's lack of transparency effects didn't stop the team from realising them

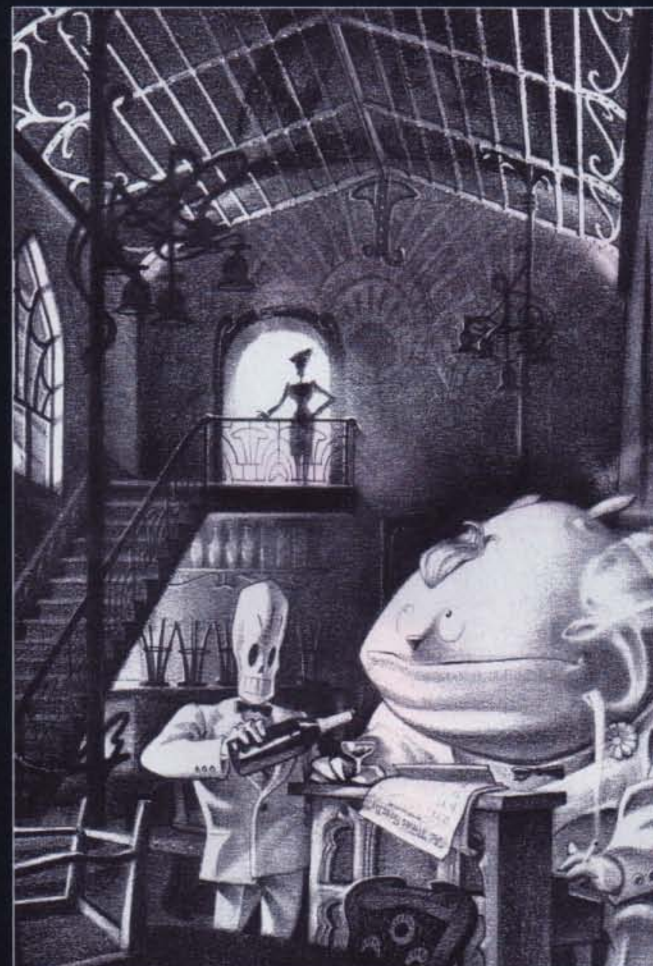
Grim Fandango

After pushing back the boundaries of the graphic ADVENTURE WITH FULL THROTTLE, A BIKER opus, can LucasArts repeat the trick with their Mexican mystery?





The design of lead character Manny Calavera, a 250 polygon model, is impressive, as is the unique styling of this highly unusual adventure



The concept sketches of Grim Fandango picture an intriguing mix of '40s style and Mexicana, admirably reproduced in the game's many locations

The sheer commercial clout of the 'Star Wars' franchise – and LucasArts' eager exploitation of it – means that to many people the company is, in the words of veteran producer Tim Schafer, 'the 'Star Wars' company and then some.' Schafer's work on the 'and then some' products may not command as high a profile as LucasArt's cash cow but his curriculum vitae reads like a roll-call of the most inventive graphic adventures of the last decade.

Impressive apprentice work on the scripting and coding of benchmark adventures, *The Secret Of Monkey Island* and *Day Of The Tentacle* led to Schafer's first game as producer, 1995's *Full Throttle*. As with all LucasArts' adventures, the game wilfully played with its audience's expectations of both the point 'n' click genre and the stock of movies and TV shows that inspired it – something that Schafer's next effort, the

Grim Fandango's story mixes Mexican folklore with a complicated film noir plot

forthcoming *Grim Fandango*, is happy to continue. *Fandango*'s story mixes Mexican folklore, namely the Day of the Dead holiday (celebrated every year on November 2), with a complicated film noir plot influenced by, among others, 'Chinatown', 'Casablanca' and 'The Big Sleep'.

Grim Fandango casts the player as the recently-deceased Manny Calavera, a new arrival in the land of the dead. 'He's stuck there,' says the soft-spoken Schafer. 'The land of the dead is kind of a halfway point between the land of the living and eternal rest.'

Schafer explains that in a spirit's quest to reach eternal rest, it must undergo this voyage through the land of the dead, and Manny is stuck in this 'sort of purgatory state' because of something he did during his life. Manny works as a travel agent in the land of the dead – a typically witty LucasArts' take on the Grim Reaper – and arranges transport for other souls to the land of eternal rest.

Unfortunately, he's getting all the bad jobs, the worst kind of customers, and so steals a lead to get a better client which lands Manny in it with a crime ring in the land of the dead.

'He commits this little sin,' Schafer says, 'and gets involved in this big, dark underworld that he wasn't aware existed before. Sort of an underworld inside the underworld.'

Schafer admits that the epic story, which spans four years in the life of a character as opposed to the usual few days, is the most ambitious he's tackled to date. 'It's like a four-year road trip,' he says. 'At each transition between years, he changes jobs, changes costumes, his personal relationships change – he develops a real sort of buddy movie feeling with his sidekick Glottis, the demon driver of the underworld.'

The longer storyline was motivated partly by the need to include more puzzles as Schafer was ▶

Schafer was stung by criticism of Full Throttle's all-too-brief playing time

stung by criticism of *Full Throttle*'s all-too-brief playing time. Getting quantity without sacrificing quality became one of the Schafer's main aims with *Grim Fandango*. 'When people said [*Full Throttle*] was too short, it definitely mattered a lot to me,' Schafer says. 'My response was to count up the number of puzzles in *Throttle*, then double it, and aim for that as a goal with the new design.'

While reluctant to reveal too much information about the puzzles, Schafer does characterise them cryptically as 'strange'. He goes on to describe a scenario where the player has to retrieve Glottis's heart, which has been carried off by a horde of flying spiders. 'The puzzle involves getting the heart out of the web,' Schafer intimates. 'Graphically, it comes off as being really surreal. Just this still-beating heart pumping away in the middle of this web, with these tarantulas with bat wings climbing all around.'

Grim Fandango's bizarre cast of 3D characters are modelled after traditional Mexican papier-mache figures and masks used in the Day of the Dead festivities. 'I saw them one time on TV,' enthuses Schafer, 'and I began thinking how great it would be to see an entire world made up of those kinds of characters. I thought it would be a nice achievable art style in 3D, and that's how it started.'

But Schafer admits that since that moment of inspiration, which happened even before he began *Full Throttle*, 3D has become so much more powerful. 'The biggest thing about going to this type of environment,' Schafer explains, 'is that you can change the camera angles. Before, we had to always have the floor visible so you could click on it and walk the character there. Now the floor doesn't have to be in the shot – you can put the camera anywhere you want and it will just render the character there.'

As a result, *Grim Fandango*'s 3D characters inhabit a wholly 2D world of prerendered backgrounds. Lead programmer Brett Mogilefsky concedes this wasn't as easy a task as Schafer makes out. 'This is a case where you have a combination of 2D and 3D,' he explains. 'Reconciling the two and getting the art path clean has been a pretty big chore.'

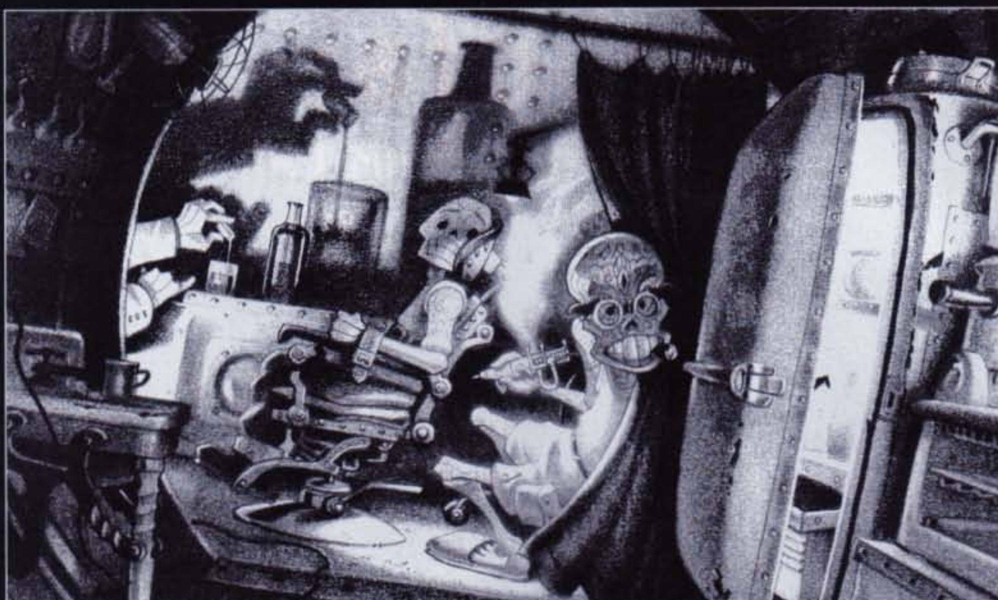
This led to the four-man programming team developing most of their own tools and even abandoning LucasArts' stalwart SCUMM engine in the leap to 3D. SCUMM (Script Creation Utility for





The skeletal undead can't have tattoos, so they have scrimshaws – bone carvings – instead (top). The garish Mexican-styled market (above)









***Grim Fandango*'s team constructed around 90 sets, one for each room or exterior environment in the game. Glottis, your driver and sidekick, demonstrates his driving ability (left) and his piano-playing skills (above)**

Maniac Mansion) was created for the 1988 game featured in its title and has been updated and modified for every LucasArts' adventure project since then. While this historic piece of code has been retired, some of the technology used in the recent *Outlaws* has been recycled for *Grim Fandango*, and the team has taken the low-level render droid rasterization module used in *Jedi Knight* and tailored it to suit their Mexican foray.

All this new technology has provided some unexpected payoffs. For one thing, Mogilefsky points out that Manny's head can move independently from his body. Players can see him looking at things and – almost like a help mechanism – his head tracks to the key objects in a room when he approaches them. Another technical benefit is the game's video caching system which can handle a mix of different 2D and 3D data. This enables the artists to synchronise choreographed limb and head movements with animated facial textures, giving far more realistic and expressive dialogue sequences.

"I think that tricky INTERFACES ARE WHAT KEEP MAINSTREAM audiences away from some games"

Speaking of the dialogue, *Grim Fandango*'s voice-artist cast, though still not finalised, will be in keeping with the Mexican theme as all the speech will be by Latino performers. 'It would just look silly otherwise,' says Schafer, and Edge must admit to finding a selection of, say, 'Eurotrash'-style regional accents a hilarious prospect in such a thematically consistent game.

The interface isn't quite complete either, and Schafer hopes to make it cleaner than the one in *Full Throttle*. His ultimate goal is something so intuitive that there's nothing on the screen to distract players from the game world. 'I think that tricky interfaces are what keep mainstream audiences away from some computer games,' he claims. In a very early demo, Manny moved through the world via the arrow keys. With no need for a cursor to prod him along, this would seem to lead logically to some form of stick or pad control, something that Schafer is very keen on.

'In other kinds of games,' says Schafer, 'people don't have to put up with the weird controls, arcane inventory systems or slow motions. They're used to snappy games. There's no reason that adventure games have to be slow and lugubrious and just tedious to play. There are all these things that people have accepted about adventure games but I think you have to look outside the genre.'

In the end, it is because LucasArts – and Schafer in particular – have never seen the adventure as a hermetically-sealed genre that they have succeeded in creating a body of work that surpasses that of their rivals. Right from the unusual source material to the more familiar satirical humour, *Grim Fandango* looks like being the most fully-realised effort yet in LucasArts's continuing quest to create the most intelligent, challenging and, above all, humourous interactive stories around. E



Grim Fandango's Tim Schafer pictured in his office inside LucasArts' San Rafael HQ

Tim Schafer

The man behind Grim Fandango and Full Throttle lets Edge in on his creative process

Tim Schafer's manner – softly-spoken with a dry wit – suggests comedy writer rather than game producer. After eight years at LucasArts, he clearly still relishes the creative opportunities the job offers, something that became clear when he reflected on *Grim Fandango*'s development, the growing importance of scriptwriting in game design and life in the shadow of 'Star Wars'.

Edge: How did you get started with LucasArts?

TS: Totally by accident. I was playing with computers ever since I was a kid, but I never thought I'd work in games. After college, I just happened to see this job listing for computer programmers who were interested in writing, and I always thought I'd be a writer. So I came in, and the job was to help wire scenes together for *Monkey Island*.

Edge: Many graphic adventures lack solid story content and character development. Yet yours succeed on this level.

TS: Well, in the entire gaming industry there's not a lot of quality writing. I don't think that writing is really even valued. I mean, in the old days, the programmers did almost everything. Now, programmers are programming but still doing a lot of the writing. More and more there is a call for actual writers to work in games. I think this will improve the level of character development we see in stories.

Edge: So stories are becoming more important?

TS: People tend to think that you don't need a story in action games, but every game has a story. I mean, *Space Invaders* has a story. All these guys are landing on your planet – shoot them. I mean, that's a good story – that's a solid story.

Edge: Have you ever considered working on a 'Star Wars' project?

TS: Well, it's one kind of challenge to try to make up something that fits in the 'Star Wars' universe, and it's just as hard in a lot of ways to come up with material when you don't have any limitations like we do. I don't know if I could do a 'Star Wars' game. There's so much you have to keep track of, so much history to honour, that I don't know if I could do it.

Edge: So you need complete creative freedom?

TS: Yeah. I mean, if someone told me there can't be any jokes in the dialogue, I might end up with a writer's block and unable to really perform. So it's not to say that it's easier to do a licensed property, but for me, it's easier to do original properties.

Edge: You've been with the company eight years. What have some highs and lows been?

TS: It was easy in the beginning because I wasn't the project leader. I'd come in and write silly jokes for *Monkey Island*. I think the lowest point was trying to come up with an idea for my own game the first time. Just to get to the point where I was able to say, 'OK, I want to do a biker game' was really, really hard. And then I had to convince other people that a biker game was a viable project.

Edge: So pitching *Full Throttle* was difficult?

TS: The biggest challenge is to have a really strange idea and get people to buy into it, get people excited about it. Because if it's easy to sell it to people, then it's usually because the idea has been done before.

Edge: So are you already thinking about what's after *Grim Fandango*?

TS: I have an idea, but it's not really a finished idea yet ... But it gets easier and easier to get approval as you get more of a track record. Often times people outside the company say, 'I have an idea. Why can't you make a game out of this?' The truth is, in general, the games aren't made because of an idea but because a team that is going to be developing a project is often given some trust by management.







Grim Fandango's gameworld is nothing if not bizarre. In the morgue (above, main) two characters have 'sprouted', a unique yet undeniably fragrant method of passing away and departing the land of the dead

The biggest challenge is to have a strange idea and get get people to buy into it





Photography: Nick Wilson

Fifteen years in the industry, home to some of the most memorable 8bit titles ever made, and now very much on its way back with four solid 'gamer's games'. System 3 Arcade Software opens its doors to Edge

It's a long, dull ride up the Metropolitan tube line to Harrow-on-the-Hill. Stepping out into a wash of drizzle, shoppers and traffic, **Edge** begins to wonder whether it has come to the right place. For this is supposedly the home of System 3, creator of legendary titles such as *The Last Ninja* and *International Karate*, among others. Few independent software houses can lay claim to such a revered stable, or as long a life. The company's first title, *Colony 7*, was released for the Atari 800 in 1983, and so **Edge** is in town to celebrate System 3's 15th birthday – and, naturally, to grab first view of its upcoming titles.

The anytown anonymity of Harrow's shopping centre is soon forgotten on entering the towering central atrium of the Hygeia building, System 3's home. But the situation is to further improve – the security guard reads **Edge** ('Got a few copies in me desk, actually.'), the receptionist is drop-jaw gorgeous, and there's a cup of tea already on the boil. Ushered into a spotless meeting room, **Edge** takes its place at the central table, along with the company's head of development, **Tim Best**, and its managing director (and founder) **Mark Cale**.

System 3 has been out of the limelight for nearly three years, only recently returning with the humourous sim-game *Constructor*. Published on the PC by Acclaim, the game was a number-one seller in several territories, and did much to re-establish ▶

CONSTRUCTOR 2

The development team has made several changes to the basic game for the *Constructor* sequel. Most obvious of these is the moving of its setting from 90s urban Britain to 50s B-movie space. According to John Twiddy, lead programmer on both original and sequel, 'We went for the 1950s look because we were sick to death of all the games that rip-off *Alien*. We've got lots of chrome, stainless steel, bright colours, more like 'Lost in Space'.' Additionally, a time element has been added to the sequel, with players having to move on from planet to planet to avoid being destroyed by the expansion of the sun.

A major overhaul has also been given to the interface, with a larger proportion of the screen given over to the actual game, along with a rise in both colour depth and resolution to 16-bit 800x600.

Even at this early stage, *Constructor 2* looks extremely promising, embodying much of System 3's belief in producing addictive and humourous titles.



The improvements made to *Constructor*'s interface will make their debut in a low-priced upgrade disk for the original game – due out early this year





System 3's development staff bear an uncanny resemblance to its in-game characters (above)

System 3's name. But *Constructor* was a major departure from the firm's last release, the SNES platformer *Putty Squad*. Cale has his own views on the matter. 'The important thing about *Constructor* was that we wanted to say to people that we don't just do arcade games, we can do sim management games as well.' He pauses, then smiles. 'It was very flattering that we had a lot of companies interested. Maxis, EA, Acclaim, GT Interactive – it was a huge success for us.' Best leans forward onto waiting elbows at this point, adding, 'We could have self-published, but because we took so much time-off, the System 3 name had no great value to the public. We required somebody with the clout to give us the market penetration, which Acclaim was ideally suited to.'

As for the long gap since the last release, Cale is surprisingly frank, 'What happens with me and my ego – which a lot of people criticise me for – is that if I don't like something, I scrap it. That's it. And a lot of the things we were doing weren't up to scratch.' As refreshing as that may sound, every silver lining has a cloud. 'The down side of that is that a lot of people who come into the industry don't know who the hell you are. But I don't care, the important thing for us is to retain our integrity, so that we can say that we're one of the best developers in Europe, which I believe we are.'

When **Edge** makes the point that *Constructor* was, given its humour and very English feel, a pretty unusual title with which to make a comeback, Tim Best takes up the issue. 'We've never liked to run with a trend. We've always done our own thing – wherever possible. We feel that with consoles you get a

Colony 7

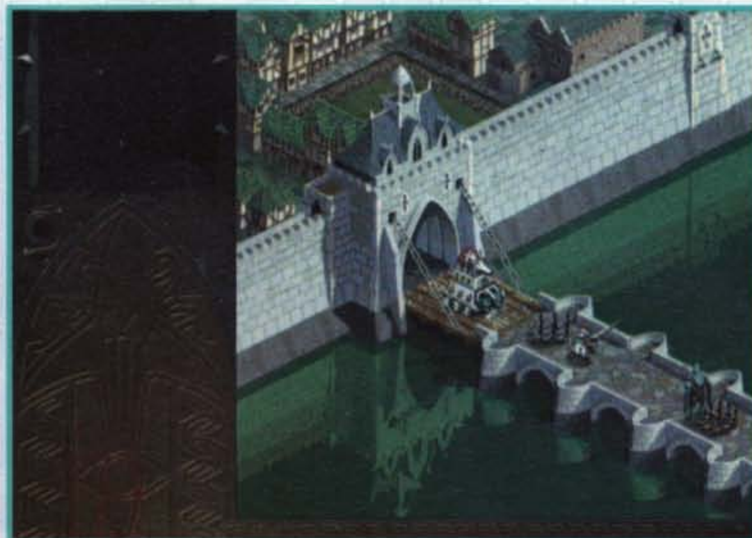
Ironically, the company's first title trod similar ground to one of its newest, *Constructor 2*. Released for the Atari 400/800 series of computers in 1983, before the impact of the Commodore 64 and ZX Spectrum changed the market.



HORDES

Tipping the usual good-versus-bad story on its head, *Hordes* is a PC strategy game of commendable difference. The player controls one of three unholy 'Clag' gods; Arclite, Cankor and Blacrot, each of whom has a particular theme. Blacrot's hordes, for instance, can attack with various rot-based weapons. Dan Malone, lead artist on the project, explains. 'The idea is that you've got this green land, and you've just got to stain the whole thing dark.' Malone, previously responsible for the appearance of the Bitmap Brothers game, *The Chaos Engine*, has imbued *Hordes* with his unmistakable style.

Hordes is intended to be far more action based than many of its contemporaries, with the player having 36 'counties' to battle through before reaching the the seat of the 'Light' Queen Edwina. With three different forces to play, 36 levels, and a totally non-linear plot, *Hordes* should have a serious amount of longevity.









***Hordes* features some incredibly large structure (top), all of which can be interacted with (ie destroyed). Each of the three evil forces on offer to the player has its own unique style. The game makes one of the strongest cases for sprites in recent times**

DeathStar Interceptor

Inspired by the end sequence of 'Star Wars', *DeathStar Interceptor* had the player flying down a trench toward a target. This was the game that really made the company's name.



Hollywood effect, like when they decide that for the next year-and-a-half they're only going to make films about babies.' Even so, *Constructor* was fairly off-beat, but again Best retorts, 'We feel it's long overdue that people have a laugh at games. One of the problems with modern games, is that they are totally reliant on whiz-bang effects. All we had in the old days was gameplay.'

System 3 has had disputes with the games press in the past, and Cale's eyes harden slightly as he rejoins the conversation. 'I think a lot of journalists push people to make things look good just for the sake of technology. Game reviewers are so wrapped up in what technology is being pushed that they've forgotten what it's all about: gameplay.' It may be a laboured point, but in an industry cluttered with unnecessary FMV sequences (as Best says, 'You'll find that a lot of marketing people tell you that people watch it and like it. But they only watch it once, and then skip it after that.') and obsessive polygon counts, it's refreshing to hear views so close to **Edge**'s heart. 'People keep forgetting the magical ingredient to every game, and that's the 'feel' that the programmer puts in.' Cale elaborates: 'Great sound, ▶



***Hordes* project co-ordinator, Chris Alexander, is introduced to the wonders of computing...**

BLOODLUST

Originally released for the Sinclair Spectrum in 1985, *International Karate* redefined the fighting game genre, going on to sell millions of copies across several formats and territories. The follow-up, *IK+*, influenced the development of that other seminal series, *Street Fighter*. Now *Bloodlust*, effectively *IK3*, is to challenge Capcom's game on its own turf, as Atari has signed the game for release in a PC-based cabinet. The action is strictly 2D, a subject Mark Cale has strong views on. 'People are fed up with 3D, they've found it's just an effect, that it doesn't play as well as a classic 2D game. And that's what we've made with *Bloodlust*.'

Players can select one of sixteen characters, which are presented in a novel flotation tank interface. Visually, it's hard to connect *Bloodlust* to the *IK* games, with Rare's *Killer Instinct* seeming a much closer match – something Cale seems unwilling to accept. However, the game's AI and play system promise to outstrip Nintendo's faux-64 arcade title. Due to the sprite-based nature of the game, memory demands are heavy, with the hi-res PC version requiring a staggering 64Mb of RAM, the low-res 16Mb. *Bloodlust*'s conversion to PlayStation is obviously causing a few problems, although Cale is confident they can be solved. 'We'll give the game 3D backgrounds. But with sprites you get a better quality picture, it's much nicer. Obviously with PlayStation you do have a memory restriction, you can't fit 16-20Mb of graphics data into a machine that has 1Mb of graphics memory.'









Bloodlust is packed with the kind of outrageous special moves that have become more or less expected by the arcade fraternity. Projectile attacks can be angled on-the-fly (main). Players should also expect reversals, combos and throws. Unfortunately, Edge was unable to see the hi-res arcade version, due to an embargo by Atari



As with other developers, System 3 has found the addition of an in-house musician invaluable

great graphics, they all have a part to play, to give you the atmosphere to keep you coming back for more. But if it doesn't play, you're not going to bother at all.'

As **Edge** later discovers when touring the development studios, this obsession with gameplay is to be found throughout the company. In one corner a Nintendo 64 is permanently running a copy of Rare's *Goldeneye*, while staff – many of whom have been with System 3 since the 8bit era – talk with real intensity about games, digging for **Edge**'s opinion. 'We tend to have smaller, more experienced teams working on a project. American developers have the attitude that if something's running slow, then add ten artists to bring it back up to pace. This isn't the way.' Best, matching Cale's ability for sudden solemnity, continues, 'We are terribly choosy about who we employ. It's not just a question of ability, it's a question of personality, too.'

System 3's 'chosen ones' are helping the company make a strong comeback. Following *Constructor*'s success are a string of titles, including an update and

The Last Ninja

If ever a game deserved the title 'ground-breaking', it was *Last Ninja*. Essentially an isometric adventure, *Ninja* added combat elements to a by then established genre, going on to become a multi-million seller.



LAST NINJA (WORKING TITLE)

Last Ninja, possibly System 3's most anticipated new title, is also proving to be its hardest to develop – such is the pressure to do justice to the series that several versions of the game existed before the current iteration. It was decided that the best way forward was to retain the original games' isometric, flip-screen settings. According to Cale, who is full of praise for GT Interactive's *Oddworld*, 'When we started the new version of *Last Ninja* we had the character moving around in 3D, but everyone's doing that sort of product, and the feedback we were getting from people was that they wanted it for what it was. Why take a successful product and make it 3D just because that's what the market is dictating?'

With the game around 12 months from completion, play details are fairly sketchy. However, it is known that the character will be able to roam the environment freely, rather than being confined to paths as in the past, and there is talk around the development office of interactive scenery – and the possible dismemberment of foes. The number of locations is set to rise dramatically from the 25-30 screens per level of the 80s titles to around 100, with over 800 in total. Promisingly, the firm's recently recruited in-house musician is working to create suitably oriental tunes. *Last Ninja*'s lush 16bit colour backgrounds and detailed environment go much of the way to justify Cale's argument regarding the switch to 3D, but are again causing headaches on the PlayStation. 'Again, you have memory issues, but if we could get the whole game in 64k on the Commodore, I'm sure we can get it running on PlayStation...'







As yet the company is undecided as to whether the characters should be sprites or polygons, although both seemed similarly suited to the game. It will be some time before polygons can offer the level of detail illustrated in *Last Ninja*

IK +

Any Edge reader with access to an emulator site should find the download time to avail themselves of a copy of *IK+* on the Commodore 64. Threeplayer combat, precise controls and punishing opposition. Great stuff, then



a sequel to that game, a new strategy game called *Hordes*, plus new instalments of the *Last Ninja* and *International Karate* series. The latest *International Karate* game, now dubbed *Bloodlust*, has been signed by Atari for an arcade release – a less than usual occurrence, but given that Cale, 'absolutely loves coin-ops,' it is perhaps easy to comprehend. The *Bloodlust* project had been on the cards for sometime, as Cale says, 'We spoke to Jaleco, Sega, Namco, and Atari in particular, about two years ago.' The wide interest in the title can easily be attributed to the reputation of *IK+*.

According to Tim Best, 'Game playing takes place at every level of the company, and that makes a big difference. Mark's probably the only MD left who still plays games.' And perhaps that's the clue to understanding System 3 and its games. For these are game addicts making software for people like themselves. While their games may not boast the latest in 3D technology, they bear the hallmarks of enthusiasm – something that no amount of development money can buy. That System 3 has lasted fifteen years on such qualities may be a message for others in the industry to consider.



Company founder, Mark Cale, remains passionate about games despite 15 years in the industry

SEGA RALLY 2

SEGA RALLY POWERSLID ITS WAY INTO THE COIN-OP SUPERLEAGUE OVER TWO YEARS AGO, ITS SUMPTUOUS, REALISTIC VISUALS AND PLAYFUL DYNAMICS FORMING A POTENT RECIPE FOR INTERNATIONAL ARCADE SUCCESS. BUT IT'S A BENCHMARK THAT'S ABOUT TO BE RAISED – SUBSTANTIALLY. EDGE RECENTLY MET WITH AM ANNEX, THE CREATORS OF A SUPERCHARGED SEQUEL, FOR AN EXCLUSIVE INSIGHT INTO ONE OF THE BIGGEST RACING GAMES OF 1998...





Photography: Hiroki Izumi



NAME: TETSUYA MIZUGUCHI
AGE: 32
TITLE: PRODUCER, SR2
CAR: HONDA ACCORD ESTATE



NAME: KENJI SASAKI
AGE: N/A
TITLE: DIRECTOR, SR2
CAR: HONDA CIVIC TYPE-R



The car handling is one of the original game's most successful aspects and it's something that has been further refined for Sega's latest rallying venture







Tetsuya Mizuguchi owns a Honda with the latest navigation system – not, alas, available in *Rally 2*



Few could argue that Sega's recent arcade racing titles have been found wanting in many respects. Equally, few can forget the impact *Sega Rally* had when it first exploded onto the arcade scene. Following it was never going to be easy and, other than producing a sequel to stablemate *Daytona USA*, a sequel grafting more contemporary luxuries onto the established formula was the only solution.

This, of course, is exactly what Sega is doing and **Edge** was privileged to be invited to join a select gathering of journalists in Tokyo to witness a playable development version of the game. Three courses were featured – desert, forest and mountain – but the layout of these is yet to be finalised, and the release version may offer players several significant additions over the original, such as alternate routes and cunning short cuts. However, even at this stage the near-photorealistic graphical quality of the 3D backgrounds is such that when Sega cites Thailand as the inspiration behind the desert stage, and Corsica for the mountain section, no one disputes it. Well-travelled gamers will find that both environments have an air of familiarity. The final version should boast a total of six tracks, including a winter stage featuring suitably realistic snow flakes, and a night section in Monaco wherein the cars' headlights are the only means of picking out the convolutions of the road ahead.

In fact, the visual realism in *Sega Rally 2* is unprecedented for an arcade racing game – to the point of making even *Scud Race* look dated. Tyres smoke and lay fat skid marks on tarmac, dust sprays out in a turbulent stream from behind the cars, while transparency effects make it possible for players to see through the reflections of the scenery on the windows and into the cars themselves. Further pleasing details are promised, such as dirt on cars, and some effects that will remain secret until later in the game – although the producer was unwilling to disclose any information other than to confirm that the game will feature effects not previously seen in an arcade game.



SR2 includes many improvements over its predecessor. One of the most obvious is the transparency and reflection effect used on the car windows



The 3D backgrounds have been inspired by several locations around the world, each bearing a particular likeness and capturing the essence of the different areas with aplomb. Even on open ground, such as during the desert stage (right), the sensation of speed is impressively maintained due to good road detail



One of the most impressive demonstrations of Model 3's power is provided by the conspicuous lack of scenery pop-up even though the game draws far ahead

Naturally, the AM Annex team has also taken the meaty, satisfying handling and feel of the cars (a factor which contributed greatly to the original's success) a significant step further. Rarely has the illusion of steering a thoroughbred rally car through long, sinuous stages, over surfaces of varying unpredictability been so complete.

The version **Edge** played only contained four cars – the Lancias Delta and Stratos, the Toyota Celica and a Subaru Impreza – although more are expected to feature in the completed game. Sega has also developed a prototype handbrake in order to facilitate progress through the courses' tighter corners, a feature recently implemented to great effect in Konami's *GTi Club*. This is still to be confirmed for the final cabinets.

Another obvious change from its original incarnation is the cabinet itself. *Sega Rally 2* boasts one of the most interactive user interfaces yet seen in a racing game. The cabinet is being designed by Sega's AM Dept. R&D4 (AM4) and makes extensive use of hydraulic technology. Indeed, the red tubular structure is mounted on pistons and reacts faithfully to the action onscreen (even down to differing road surfaces) so that sudden braking results in an equally abrupt nosedive, and the whole edifice vibrates in sympathy with the engine revs.

Of course, the quality of the sound effects makes as significant a contribution to the whole as the visual aspects, and unsurprisingly it isn't an area that has been neglected. Surround Sound technology is being deployed to emulate the litany of screeches, bangs and squeals that would assail the pilot of a real rally car, including objects rattling in the back of the vehicle and gravel bouncing off the bodywork. *Sega Rally 2*'s soundtrack will be techno-based.

Even at this very early stage, *Sega Rally 2* demonstrates its potential in a thoroughly convincing manner. **Edge** has little doubt that it will quickly emulate its illustrious predecessor's ascent to world coin-op domination. **E** ▸



Kenji Sasaki, director, *Sega Rally 2*



While the team got to try out the other vehicles featured in the game, the mid-seventies Lancia Stratos remained untouched by *SR2*'s developers



Leave the coin-op alone for a while and *SR2*'s splendid realtime intro movie kicks in, featuring some very effective camera angles and an impressive dust spray effect

An interview with

AM Annex

While exploring the newly-acquired building housing Sega's Amusement R&D departments, **Edge** took the opportunity to interview **Tetsuya Mizuguchi** and **Kenji Sasaki**, the respective producer and director behind the already spectacular *Sega Rally 2*. Sasaki first started working for Sega on a freelance basis and met Mizuguchi who, at the time, was involved in his first few projects for the firm. After being employed by Namco and participating with the development of *Rave Racer*, Sasaki was later persuaded by Mizuguchi to join Sega's ranks and work alongside him.

Edge: So how long will the game have taken to develop?
Kenji Sasaki: Work on the game began in March last year, just after we received the Model 3 board.
Edge: When do you plan to release *Sega Rally 2*?
Tetsuya Mizuguchi: It will be released in Spring, as we intend to reveal it at the next AOU show in February.
Edge: Is *Sega Rally 2* running on the same board as *The Lost World*?
TM: Yes, essentially it's the same board.
Edge: How big was the team? How does this compare to the rest of Sega's arcade teams?
TM: The whole AM Annex department includes about 25 people of which 15 to 20 are currently working on *Sega Rally 2*. In terms of number of staff, the present team is similar in size to the original *Sega Rally* team. We don't require bigger teams to make quality games.
Edge: Is the staff essentially the same as the one that worked on the original?
TM: Half of the team were originally AM Annex staff while the rest were recruited from other departments.
Edge: What would you consider to be the main improvements over the original game?
KS: There has been a substantial graphical overhaul. In *Sega Rally 2*, we've achieved a better management of the game's physical parameters. However, because of the game's vast graphical enhancements, the balance between gameplay and graphics has been lost. As a result, we've had to introduce some innovative features into the gameplay.



Mizuguchi-san has worked at Sega for a number of years. He persuaded Kenji Sasaki to join the AM Annex division he was putting together

Edge: What visual innovation has Model 3 allowed in *Sega Rally 2*?
KS: Well, apart from the graphical improvements, the CPU runs at a much faster speed – compared to a Model 2 it's far more powerful. For example, in the original *Sega Rally* it was impossible to use any transparency effects, and the board was also poor at managing particles and lighting. The Model 3 board made these things achievable; now the background is drawn far into the distance and cars can run under a night spotlight – the game has become far more realistic than its original incarnation ever was.
Edge: Will the game feature different weather effects? Does the weather change during a race?
KS: We're currently deciding on the form the weather will take in each stage but it won't change randomly within the same stage... however, nothing's definite yet. Some stages will feature snow or fog. We initially thought about a random weather system that would change according to the time of the day, but for the 'time attack' mode we wanted players to compete in the same conditions.
TM: However, technically it is possible.
Edge: How significant is the design of the cabinet in the sequel?
KS: Cabinets have recently become a crucial aspect of arcade games. It's absolutely essential to



Having worked on *Rave Racer*, Sasaki-san is no stranger to racing games









Although the version **Edge** played only featured three courses, the finished machine will allow players to race on six tracks (Monaco, right)

get the balance between the cabinet and the game right.

Edge: How do you decide on the general design of the machine

TM: Firstly, we decide on a basic concept. For *Sega Rally 2*, the sound was also really important. It's very difficult to make a good cabinet – we have to deal with parameters such as cost, time, power supply limits, etc.

Edge: What was the hardest aspect of the game to implement and why?

TM: It isn't finished yet!

KS: We're presently in the 'hard' phase. [Laughs]

TM: In fact, we shouldn't really use the word 'hard' – as you get older you begin to master these 'hard' phases. Sasaki-san is currently working 'hard' on the course layouts.

Edge: Do you see the cost of the Model 3 board as a limiting factor in commercial terms?

TM: I don't think so. Any good game tends to sell well. It isn't a problem at all for us.

Edge: How successful, in real terms, was the original *Sega Rally*?

TM: *Sega Rally* wasn't a huge seller, at first. Rather, its success in the arcades took a more progressive approach.

KS: We truly believe that a good game will sell and as a result the cost of the board becomes a negligible factor.

Edge: Given the current rate of technological advancements of the PC and consoles, arcades face increasingly fierce competition from the home machines. What do you see as the future for coin-op driving games?

TM: Of course, I believe in coin-ops more than PCs. I think playing at home is great but the way of playing differs greatly. Arcade games must attract players and offer them a highly enjoyable and distractive experience for a short period of time – the experience is far more intense than you would expect from its domestic equivalent. When we did the Saturn version of *Sega Rally*, we had to add different features. Arcade racing games must be geared towards providing a quick adrenaline rush.

KS: For some time now, network play has become a possibility on PCs. Even if racing games are mostly aimed at the single player, it is presently possible to compete against three or four other players. From a developer's point of view, it's an interesting feature.

TM: Consumer racing games can also be based on simulation where players can upgrade certain components, for example. This would be unthinkable in a coin-op. I really think both arcade and consumer games offer wildly different ways of playing.

Edge: Do you see too much 'realism' as a bad thing?

KS: As far as racing games are concerned, I think the closer you are to reality the better. For consumer and arcade games, though, it's a different situation altogether. For example, fitting car upgrades in a console game carries a certain amount of 'reality factor', but for a coin-op you're forced to approach the same issue from a different angle, so as to retain the atmosphere using a set of limited resources available to you.

TM: But this is true of a fantasy game too, for example – if there's no realism, the game is not interesting. *Wipeout*, *F-Zero* or *Mario Kart* are successful because they are based on a realistic game system. It's important to distinguish 'realism' from 'real'. Furthermore, the 'real' aspect of a game isn't everything. In the case of *Wipeout*, for example, the music made a significant contribution to the overall effect.

Edge: Does this attention to realism extent to the vehicles themselves - does each car handle differently? Were you granted access to the real cars in order to model them more accurately?

KS: Yes, the cars differ subtly from each other.

TM: I got to try the different cars and was taken for a drive in the Stratos. I also managed to destroy half of a car in a crash I subsequently had, but I was fine. [Laughs]

Edge: Have you included more opponents in this version? Has their AI improved?

KS: There will be 15 cars to race against, as in the original *Sega Rally*.

KS: Because the CPU is faster we can do a lot more with the other cars, but opponents will not employ underhand tactics to stay in front. However, this time around it will be more difficult for players to finish ahead of the pack.

Edge: Have you concentrated on including more peripheral details in this version?

TM: Yes, we're currently working on this. For example, in real races you see people taking pictures by the side of the road, so we've included camera flashes in the game – the better the player is performing, the greater the number of flashes. This, combined with the unique nature of each track enhances the overall atmosphere.

Edge: Is it possible to crash the cars?

KS: No, but we do want to show damage after collisions.



After some time spent working at Namco, Sasaki returned to Sega as *SR2*'s director



The game's city track is impressive and like the other courses it's inspired by a real location: in this case, Monaco

TM: We're also thinking about getting the spectators in the game to react so that, for example, some people may start running away if the car gets too close to them.

Edge: What about the possibility of including a variety of alternative routes for each circuit?

TM: No comment. [Laughs]

KS: We're seriously thinking about it.

Edge: Did you travel to any of the locations in order to get the setting and atmosphere right?

TM: Yes, we travelled to several locations, assimilated the atmosphere and took some pictures. Then we remodelled everything in polygons.

Edge: What sort of elements and concepts did you have to reject because they were impossible to implement?

TM: Come back next month! [laughs] There are a lot of things we'd like to include, but we haven't given up yet.

Edge: The Model 3 technology must have tremendous potential. Is *Sega Rally 2* pushing it as far as it can go?

KS: No, not at all. We estimate that *Sega Rally 2* will only use 70% of the board's performance potential.

Edge: Did you use your own development tools?

KS: Yes, we created our own tools, although at the start of the project we used some stock tools – it would have been stupid not to do so.

TM: When sharing libraries, programs can take on a uniform look so it's better to have your own tools.

KS: It's useful for consumer games, where the hardware lasts three or four years, but arcade boards change more often and as a result we don't have as much time.

Edge: What are your plans for the future?

TM: We want to make something radically different. One day, I hope, we will develop games for the home systems, as I've wanted to bridge the gap between the arcade and consumer markets for a long time.

KS: A simple conversion from arcade to consoles isn't that interesting from a developer's point of view.

TM: Unfortunately, people tend to focus on technology and graphics rather than gameplay.



Sega Rally 2's coin-op cabinet has been designed and built by the firm's R&D4 department. A handbrake that allows 360° turns is currently in protoype form

The next generational leap for PC 3D

3Dfx, PowerVR and rival manufacturers are preparing to enter the second phase of the 3D acceleration war. Edge sizes up the competition and wonders if a collusive standard is still little more than a silicon dream





Unlike the console market, where manufacturers attempt to extend the life of a given platform for as long as possible, the motto in the fiercely competitive world of PC 3D acceleration is definitely 'more, faster'. Just two years ago, the scene was dominated by companies such as S3 and ATI who racked up millions in sales through the simple expedient of flogging cheap acceleration chips directly to motherboard manufacturers. However, as the demands of both games and gamers became more sophisticated, these low-cost solutions – lacking sufficient onboard memory, and unable to implement many specialist 3D features – became less appealing to hardcore gamers.

Then, in late '95, 3Dfx and VideoLogic entered the picture, both postulating the same idea – to produce a dedicated 3D chipset which could work alongside a standard 2D SVGA controller and concentrate solely on throwing textured, filtered and lit polygons around the screen at previously undreamed of speeds. Naturally, this fired the industry's collective imagination and within six months, 3Dfx's Voodoo chip had found its way onto consumer add-on boards built by Diamond and Orchid. VideoLogic, on the other hand, failed to secure such partnerships, and rolled out its own range of boards based on its PowerVR PCX chipset. The battle for the high-end in the 3D graphics war had begun.

Since then, 3D acceleration has become a vital consideration in PC game development; it is now unusual – to say the least – to find a title that does not boast support for such high-end silicon, either for a specific chipset technology (using a proprietary API like PowerVR's PowerSGL, or 3Dfx's Glide) or for a broader base of machinery through Microsoft's generic API, Direct3D. Not bad for two years' work.

However, the 3D specialists cannot claim a stranglehold on the graphics processor market. According to business analysis company Jon Peddie Associates, mainstream consumer products such as S3's ViRGE and ATI's 3D Rage shipped a huge 30.1 million units last year. 3Dfx and PowerVR could only amass a figure of 8.2 million between them.

By the turn of the century, however, the market will change yet again. As 3D performance becomes a standard by which new PCs will be judged, demand for high-end chipsets will grow exponentially.

But stability is a critical component of any mature market. Both 3Dfx and NEC/VideoLogic have second generation chipsets on the way, and other competitors are gathering. Could a single dominant standard for 3D graphics be just around the millennial corner?

3Dfx Voodoo 2



Here are two reference boards connected with a ribbon cable to enable scan-line interleaving. The cable will be included with every unit sold – 3Dfx is serious about marketing scan-line interleaving as a consumer upgrade. By the time games requiring SLI ship, 3Dfx expects that board prices will have shaken down to a level realistic enough for mass uptake

First released some 18 months ago, Voodoo boards made an immediate and lasting impression upon the gameplaying public. Not only did the chipset boast a wealth of impressive 3D effects such as perspective correct texturing, alpha blending, bilinear filtering and LOD mip-mapping, it also had sufficient on-board RAM to exploit these features properly without making a significant impact on framerates. On top of that, the technology was designed to be easily accessible to developers, ensuring plenty of early software support – another factor in the product's popularity with early adopters.

In many ways, Voodoo2 – a multichip, 3D-only solution – will prove very familiar to those who are intimate with the original product. It has a superset of Voodoo's features and uses a superset of the original Glide API, hopefully ensuring full compatibility with software written for the original Voodoo implementation. Better than just being backwards compatible, though, old software will actually run faster and more smoothly on Voodoo2.

The differences, however, are impressive. Voodoo2 may be an evolutionary rather than revolutionary step beyond Voodoo, but it is a giant one nevertheless. Firstly, the raw performance of the chipset is significantly greater, and many new features have been included. Secondly, the use of dual texture processors conveys yet another performance boost. More remarkably, the ability to link two boards together to enable scan-line interleaving offers gamers the potential to double the power available to them.

One of the most significant improvements with Voodoo2 is that all triangle set-up is now performed in hardware. As **Scot Sellers**, Vice President of R&D at 3Dfx, points out, 'We did about two-thirds of the triangle set-up in hardware before – but this means there will be a significant boost.' A number of other processor-hungry calculations – such as zero-area triangle culling (purging triangles smaller than one pixel in size) that were previously implemented in software at the driver level – are now done in hardware as well. 'Basically, all the CPU has to do is send down some data, and we do the rest' says Sellers.

Another new feature is improved fog performance, thanks to a 64-bit hardware fog table. Previously, the amount of fog either had to remain constant, or to increase as objects moved

Voodoo^2 reference board



1 Frame buffer unit, codename 'Chuck'

2 Texture map unit, codename 'Bruce'

3 Dual 2Mb RAM banks for texture map units

4 2Mb RAM for frame buffer

5 Jumper to connect boards for scan-line interleaving

6 Digital to analogue converter

7 Video-in from PC video card

8 Video-out to monitor

further into a scene. Under Voodoo2, however, developers can implement layers of denser fog in front of weaker patches, adding to the realism of a scene without impacting the fluidity of motion through it. Further effort has been channelled into reducing the 'fog banding' that results in objects 'popping' from one fog level to another.

As for that other staple concern of the software developers, z-buffering, 3Dfx claims that its floating-point z-buffer enables developers to implement more depth levels than the industry standard 16-bit integer z-table, which should almost eliminate ugly z-aliasing on objects placed deep within a scene. Furthermore, the triple-colour buffer (which enables rasterization to happen in a third buffer during v-sync) can now be used concurrently with the z-buffer, something that wasn't possible with the Voodoo chipset.

Voodoo2's maximum screen resolution will be 1024x768, and support for TV out (both NTSC and PAL) is planned for some boards, the first of which (due in the first quarter of 1998) will be for PCI motherboards. AGP-based boards are likely to follow as soon as AGP motherboards gain significant market penetration, and some teething troubles with the AGP form factor (which causes many boards to pop out of their motherboard sockets during transit) are sorted out. **Edge** expects this to happen before the end of 1998.

By far the most exciting new feature, though, is Glide and D3D support for scan-line interleaving (SLI). Each Voodoo2 board will be equipped with connections which enable users to fit two boards in adjacent PCI slots and connect them with a ribbon cable. Once connected, one board handles the odd monitor scan lines while the other grasps the reigns of the even. This effectively doubles the frame buffer memory, the texture memory and the fill-rate, in addition to a raft of tertiary functions such as the triple-colour buffer. Although no single-card SLI solutions are planned for launch, Sellers expects high-end board manufacturers to be offering them by mid-to-late-1998; by that time AGP boards will be approaching a state of maturity, and since there is only one AGP slot per motherboard, a single board solution will be necessary for scan-line interleaving.

The first configuration of Voodoo2 to ship will be the '2220', which will have a 2Mb frame buffer and 2Mb for each texture processor. The architecture actually supports up to three texture processors, hence the zero – and Sellers admits that some arcade boards will use three texture units in order to obtain maximum performance.

3Dfx claims that with all features turned on, the board will be able to fill 90 million z-buffered, alpha-blended, texture-mapped, fogged, per pixel mip-mapped, shaded pixels per second (180Mpixels with SLI). Triangle performance under the same circumstances (assuming 25-pixel triangles) is greater than two million triangles per second. The company says that this will translate into better than one million triangles per second in real-world usage. That's about three times the current Voodoo performance.

The frame rate goal? A consistent 60fps at 640x480 resolution. 'We don't think real interactivity starts until you get to 60 frames per second,' claims Sellers. 'A lot of consumers think 30fps is enough, but the difference between 30 and 60fps is amazing. Arcade developers won't touch anything that can't do 60fps.'

More significant than the benchmark numbers, though, is the architecture itself. By providing two texture units, the board enables routines that used to take two passes to be performed in just one. An example of where this will result in significant improvement can be found in the *Quake* lighting model. Everything in *Quake* is drawn twice, first as a flat, unlit surface, and then as a lighting/shadow map. The two textures are then combined in order to create a seamless visual – it looks great, but every triangle needs to be drawn twice. Not anymore. By having one texel unit handle the base textures and another one the light textures, the scene can now be created in a single pass. ▶





Shot (left) from Finnish technicians Housemarque and the demo-coded *Mad Trax* (right) directly exploit the awesome potential of 3Dfx's Voodoo2 technology. Existing Voodoo1 titles will also benefit, though

AGP explained

1. PCI – Yesterday's news

Until AGP-equipped Pentium II's began to roll off the production lines last year, 3D graphics accelerator boards slotted into PCs via the PCI bus which runs at a measly 33MHz, and can transfer data between the system and video memory at roughly 100Mb per second. This transaction is of vital importance because graphics accelerators use the system memory to store surplus texture data that cannot be accommodated by the local texture cache, and so the speed at which transfer is achieved directly affects the framerate. 100Mb per second used to be adequate, but is proving too slow to cope with today's complex 3D environments and large-scale texture maps, turning the PCI bus into a performance-inhibiting bottle neck. No matter how big the system memory, or how fast the card, data can only be transmitted at PCI's Sunday driver pace.

2. Accelerated Graphics Port – Two solutions

AGP – Intel's new alternative to PCI – speeds up communication between the system memory and the 3D graphics accelerator in two ways. Firstly, it operates at 66MHz, doubling the bus speed and improving data transfer exponentially. Secondly, AGP opens a direct pipeline between the system memory and the 3D board's local video memory, allowing for much faster retrieval of texture data stored on the former, and bypassing the need to copy textures into the card's local memory before processing them.

3. Sidebanding

Although the main data AGP path is 32bits wide, AGP incorporates an 8bit 'sideband' so that the graphics card can send data requests to system memory while simultaneously receiving data. Sidebanding, however, is not fully optimised yet in the current 440LX AGPset being proferred by Intel.

4. 1x and 2x

Two 'levels' of AGP exist at the moment: 1X and 2X. AGP 1X doesn't support sidebanding, relying on back and forth DMA (Direct Memory Access) between the graphics card and memory. This is still faster than PCI, but real acceleration begins with AGP 2x, which transfers two 32bit data blocks during each cycle of the 66MHz bus and supports sidebanding. However, 66MHz is still slow for this kind of transfer, and at the moment only one card, the Xpert@Play from ATI, utilises it.

5. The Future.

To witness the true promise of AGP acceleration, gamers will have to wait until the tail end of 1998, when Intel will roll out motherboards based around the 100MHz 440BX AGP set (which will, incidentally, require 100MHz SDRAM for system memory). Boards based on the AGP 4x standard, which transfers four 32bit data blocks per cycle, will probably reach the market by 1999.



AGP explained

Performance

•Base chipset: 80 million bilinear filtered, mip-mapped pixels/second fill rate
•2 texture units: 160 million effective simultaneous two-texture, bilinear filtered, mip-mapped pixels/second fill rate
•Scan-line interleaved: 320 million effective simultaneous two-texture bilinear filtered pixels/second fill rate
•2 million triangles per second with real game triangles

3D rendering

•Triangle-based raster engine with Gouraud modulation
•16-bit integer and floating-point z-buffering with biasing
•Full hardware setup of triangle parameters
•Automatic hardware back-face culling
•Support for multitriangle strips and fans
•Transparency and chromakey with dedicated colour mask
•Alpha blending on source and destination pixels
•Sub-pixel and sub-texel correction to 0.4x0.4 resolution
•24-bit colour dithering to native 16-bit RGB buffer using a 4x4 or 2x2 ordered dither matrix
•Per-pixel and per-vertex atmospheric fog and haze effects simultaneous with alpha blending
•Polygon edge anti-aliasing

3D texture-mapping

•Perspective correct (true divide per pixel) 3D texture-mapping
•True per-pixel, level-of-detail mip-mapping with biasing and clamping
•Full speed bilinear and trilinear filtering
•RGB modulation/addition/blending combines textures and shaded pixels
•Texture compositing for multitexture special effects
•Support for 14 texture map formats
•8-bit paletted textures with full-speed bilinear filtering
•Texture compression through narrow-channel YAB format

Host interface

•Zero-glue PCI v2.1 bus interface runs at 33 and 66MHz
•PCI input FIFO optimized for high-speed bursting of geometry and texture data
•AGP-compatible
•Memory-mapped addressing with linearly-mapped frame buffer and bi-endian byte-ordering support
• Programmable and event driven interrupts

Memory system

•Advanced architecture with up to 3.6Gb/second memory bandwidth
•2-4Mb of EDO DRAM frame buffer memory
•2-4Mb of EDO DRAM texture memory per texture unit
•Up to 12Mb total texture memory

Display system

•Supports resolutions upto 1024x768 with double and triple buffering
•Constant frame rate buffer-swap management
•16-bit and 24-bit gamma correction on video back end
•Support for industry standard RAMDACs
•Compatible with any 2D graphics controllers through video pass through connector

Software support

•Optimized drivers for Microsoft's DirectDraw and Direct3D and 3Dfx's low-level Glide interface

Technology

•Custom ICs fabricated in 0.35 micron, 3-layer metal CMOS
•Pixelfx2 is a 256-pin PQFP; Texelfx2 is a 208-pin PQFP
•3.3V operating voltage with PCI and 5V tolerant I0s

◀ Likewise the operation of Voodoo2's effects repertoire is expedited; trilinear filtering can also be done in a single pass (by using the two texture units to hold different mip-maps). Other expected uses for the dual texture units include projected texture maps – for such details as spotlights – environment-mapping on translucent surfaces, and more detailed texture-mapping. Imagine approaching a wall in *Prey* and seeing not a blurry mess of pixels, but highly detailed bricks...

The use of multiple textures is just beginning to find favour with developers, so Voodoo2's dual texture units have come at a perfect time. Support for dual textures is already in the latest Glide API and should be part of DirectX 6 when it is released. And in the event that developers neither want nor need to take advantage of the two units discreetly, they can use them as a single 4Mb texture effects unit.

The raw speed of Voodoo2 is impressive. **Edge** witnessed *Quake* running on the technology at more than 120 frames a second: too fast to play, and too fast even for the monitor's refresh rate. However, raw speed alone is not necessarily the chipset's principal attraction – even if most monitors could refresh at 120 frames per second. It's what that speed enables developers to do with the board's special features that will ensure its position at the forefront of the 3D accelerator market.

Until now, most 3D-accelerated games have just been smoother, faster versions of unaccelerated games. Some pundits have even derided the blurry and somehow soulless 'accelerated look'. However, the widespread acceptance of 3D accelerators in general, and Voodoo2 in particular, offers the possibility for change. By focusing on new higher-spec boards, developers can concentrate on ensuring that 3D-accelerated games look better than just smoother versions of their software-accelerated counterparts. That means more polygons, larger texture maps, and ultimately more detailed, complex environments. 'We want people to be able to tell their artists to go wild and do anything,' explains Sellers.

Ultimately, 3Dfx makes no secret of its long-term corporate goal. It wants nothing less than to make 3Dfx-enhanced systems a distinct platform, as separate from a standard PC as PlayStation is from Saturn. To do that, it needs to persuade developers to take advantage of its cards, not through Microsoft's Direct3D, but through Glide. Although 3Dfx's installed base may never be as broad as that of its less expensive competitors, by going after hard-core gamers – the 20% of the market that accounts for 80% of the sales – the company has managed to arouse the interest of many key developers.

The race to set the ultimate 3D standard for PCs is far from over. But 3Dfx, which leapt to prominence after the first generation of 3D accelerators, looks set to maintain that dominant position as it prepares to charge into the second. E



A scene this complex – the buildings are complex polygon models, not texture-mapped boxes, and the figure is a 5,000-polygon model – running in real time at 60fps, is the promise of Voodoo2. A startling boast...

NEC and Video Logic - Power VR2

Considering the massive exposure 3Dfx has enjoyed over the last two years, it would be easy to write off VideoLogic (and its backer, NEC) as little more than an interesting also-ran. Its technology may have been a match for 3Dfx, but its approach to cultivating support for the PowerVR PCX chipset was less successful. The process of creating PowerVR-specific titles is more complex (and , subsequently, less desirable) for developers, thanks to its unique method (i.e. no z-buffer) of calculating hidden surface removal. Also significant is the fact that PowerVR's API, SGLDirect, requires programming for infinite planes rather than the standard 3D method (used in Glide) which uses vertices – another unwelcome complication.

Despite the controversy, though, NEC and VideoLogic are sticking with their innovative design for the next generation of PowerVR products – which will include console and arcade chipsets as well as high-end PC graphics processors. For the latter, the companies are promising a wealth of features including full floating point set-up, advanced texture filtering modes, 2x AGP support, and full DirectX and OpenGL blending modes. Details are short, however, as neither of the two companies have announced a full spec list as yet.

But it seems VideoLogic has more on its mind than just implementing the fastest 3D acceleration. As **Trevor Wing**, Vice President of marketing, points out:

'Clearly, 1998 is going to be a year of major change in the PC graphics market, with PC and add-in board vendors wanting 3D performance beyond today's performance leaders, but at mainstream price points. The old market leaders aren't necessarily going to be the new leaders in the new low-cost, high-performance segments – in fact some current leaders will have difficulty meeting the mainstream price points without compromising performance'.

What Wing says certainly sounds reasonable. While 3Dfx is boasting about shipping a million units last year, the cheaper 2D/3D chips are flying out in their multi-millions to PC manufacturers who aren't interested in expensive 3D-only solutions. VideoLogic, then, intends to produce an all in one chip, capable of many times the performance of today's high-end 3D chips but at a much lower cost. The latter is achievable, says Wing, because PowerVR eschews the memory-intensive z-buffer, and is therefore less expensive to produce – 'inexpensive' being an attractive concept for companies such as Gateway, Cyrix and Matrox who have already signed deals to put PowerVR chips in their products.

In fact, it was signing lucrative deals with manufacturers, instead of relying solely on consumer add-on board sales, that handed VideoLogic 52% of the performance 3D market in the latter of '97, according to the Jon Peddie Associates. 3Dfx took 27%: its Voodoo chipset is generally considered too expensive to mount on PC motherboards.

NEC/VideoLogic have a different outlook on the forthcoming DirectX 6 than 3Dfx. While the latter is looking to separate its chipset from all others in order to create its own monopoly on acceleration, the former believes that DirectX support will prove vital in the next two years, and that individual APIs like Glide and even PowerSGL will be sidelined. If NEC and VideoLogic are correct (and with Microsoft's habit of indelibly stamping its name on any market associated with the PC, that seems likely), then a chipset that exploits the features of DirectX 6 successfully will corner the market. Although Voodoo2 will provide excellent D3D support, PowerVR and DirectX 6 6 use the same screen tiling method to eliminate the need for a z-buffer: a factor which could just put VideoLogic well ahead of its current competitors. E





Big titles like *Quake 2* (top) and LucasArts' *Jedi Knight* (above) will support PowerVR 2, proving 3Dfx does not enjoy a monopoly





Visually demanding titles like *G Police* (left) and *Hexen 2* will be useful touchstones for gauging the power of VideoLogic's new graphics technology. If the company can deliver high-end performance at a low price, and in a realistic all-in-one solution, market domination could be within its grasp. But 3Dfx's proposed 2D/3D card may pose a threat

Other Contenders



The RIVA 128 version of *Forsaken* shows that the abilities of the technology are not hampered by its lack of a proprietary API

NVIDIA RIVA (Real-time Interactive Video and Animation accelerator) 128

Like the forthcoming PowerVR 2 chipset, nVidia's RIVA 128 processor is a performance 2D/3D solution that seeks to provide high-end 3D at a mainstream price. Unlike PowerVR2, however, the technology has already proven itself, scoring highest in a bench test of high-end 3D accelerators held by Mercury Research in August 1997 (in which Voodoo 1 managed 3rd place and PowerVR PCX2 a lowly 8th).

In terms of 3D capabilities, RIVA certainly boasts an admirable set-up. Along with the usual list of effects such as perspective correct texturing, filtering, lighting, alpha blending, fogging and LOD mip-mapping, the chipset promises to punt an average of 1.5 million triangles or 100 million lit, textured, filtered and Z-buffered pixels per second around the screen while keeping the frame rate consistently above the 30 fps mark, thanks to a zippy 100MHz, 128bit graphics pipeline and memory interface.

Unlike PowerVR and Voodoo, however, RIVA 128 doesn't have its own API; the technology has been designed specifically to support D3D and Open GL. At the moment, this lack of a specific API may be enough to keep hardcore gamers away from the technology, because 3Dfx's Glide is still considered to be the specialist 3D interface of choice. On the other hand nVidia, like NEC and VideoLogic, believes that individual APIs are going to become less and less important over the next two years, in the wake of DirectX 6.0. As **Michael Hara**, director of Strategic Marketing for nVidia points out:

'Virtually every leading content developer has either delivered, embraced or committed to support either D3D or OpenGL. In fact, many developers have stated that after 1997 they will stop supporting proprietary APIs entirely, as there will be no real technical benefit and certainly no financial benefit. Hardware is becoming so fast that the original benefit of proprietary APIs (speed) is no longer an advantage. nVidia's strength lies in its ability to add performance and quality within a standard'

Ultimately then, if current prognoses are right, and the PC industry is moving toward D3D-proficient, high performance cards at low prices, then nVidia has got in there earlier than everyone else with a hugely impressive competitor. All that remains to be seen is whether it avoids the fate of its ill-starred predecessors...



If future RIVA-supporting games can exploit the capacity of this 2D/3D solution as well as the likes of *Incoming* (above), 3D-only accelerators could well become an expensive luxury of the past

Intel Auburn

Little is known about the Auburn 3D accelerator (also known as I740) as Intel has declined to announce the project officially. Nevertheless, it is likely that the technology has been at least partially based on one of the ultra high-end PC chipsets designed by Lockheed Martin's graphics subsidiary, Real3D (previously responsible for Sega's Model 2 and Model 3 arcade boards) – as Intel and Lockheed announced a strategic alliance last year.

Of the few early reports on the technology that have leaked out, most have been cautiously favourable, placing the beta chipset's performance somewhere between Voodoo and RIVA 128. Although this setup may well prove inferior to the pyrotechnics expected from Voodoo2 and PowerVR2, Microsoft has shown time and time again that being a massive multinational omnipresence is actually better than being a fantastically talented minnow in relative terms. If Intel starts putting Auburn onto its motherboards as standard, many consumers will come to accept its 3D acceleration technology in the same way they accepted Windows 95: in huge numbers and with very little fuss.

3Dfx, NEC/VideoLogic, etc are probably not unduly terrified, however. Intel doesn't have a complete monopoly on the PC motherboard market, so the company will not be able to muscle-out all other contenders automatically. Furthermore, 3Dfx, and to a lesser extent VideoLogic, have built up strong enough reputations with developers and consumers to survive the intervention of this ambitious microchip megalith. Nevertheless, if the technology is up to scratch, the impact Auburn could make on this market should not be underestimated.

testscreen

The definitive monthly assessment of the world's latest videogames

GAMEVIEW

LIONHEAD'S **PETER MOLYNEUX** PAYS HIS RESPECTS TO CAVEDOG'S DEBUT PC TITLE *TOTAL ANNIHILATION*...



Peter Molyneux recently left Bullfrog – the company he founded in 1988 – to form Lionhead. The mind behind the inspirational god game *Populous*, Molyneux is a true visionary and can lay claim to a portfolio of classic strategy titles.

Members of the development community should email submissions to **edge@futurenet.co.uk**

Total Annihilation

Okay, so *Total Annihilation* is a *C&C* clone. But I have no problems with clones, so long as they innovate to a certain degree. In fact, a great thing about them is that they can be played without having to learn anything, so I recently played a multiplayer game of *Total Annihilation* with an old adversary.

At first I built up the standard units and found *TA* has a very nice level of progression throughout. It's good that the units are made out of polygons – providing nice animation and smooth movement – and I noticed there seemed to be no limit on the number of units I was manufacturing. After an hour I started to build up sea units and these are big – the battleship was huge and, apart from some navigation problems, these looked powerful and well-designed. Then we went into our first battle and a Hollywood-style film score music kicked in and it really felt like a proper battle was going on. This battle lasted 30 minutes with both of us throwing in unit after unit. In the end I won. Superb.

What impresses me most is that Cavedog has really looked at the user interface. Everything follows a natural progression and the balance between cost and time to build has been done perfectly. The keyboard shortcuts are logical and the ability to stack up orders with the ctrl key and mouse makes for a much faster game. People don't release how difficult it is to balance these things and having the ability to stack up commands drastically changes the game because you can plan so much further ahead. Another strong aspect of the design is that the units look exactly like they should. A tank is a tank, a battleship is a battleship – this may sound obvious but a lot of the clones to appear recently have tanks that look like green, blobby fantasy space things, meaning you first have to learn what the attack/defence of the green blobby thing is. But in *TA* it is obvious that a heavy armoured tank will smash a robot into a pulp.

Although the AI is good, it still suffers from the 'let's find out how it works and then break it' syndrome. AI is a tricky one as it is easy to make a computer player unbeatable, but very tough to make it challenging yet playable. What *TA* does is to throw literally hundreds of units at you – and fortunately, this works well.

In conclusion, I loved *TA* and thought it should have been more successful. The graphics and sound are really well done, the amount going on is impressive and, well, the AI is okay. Job well done, I say.







Cavedog's *Total Annihilation* is regarded by many as the best realtime strategy game currently available. Peter Molyneux is suitably impressed: 'It really felt like a proper battle was going on'

VIDEOGAMES ON THE EDGE

The games – old, new, whatever – that have grabbed **Edge**'s attention this month



Gran Turismo (PlayStation)
Halting the magazine's production like no other game since *Mario 64*, Sony's racer outruns all superlatives. If the PAL version keeps the speed up, it could be best of the lot.



Diddy Kong Racing (N64)
Fiendishly tricky at times, Rare's classic kart game is a wonder to behold. Certain members of the **Edge** team are finding the adventure mode a rather challenging experience...



WCW vs nWo (N64)
Dumb it may be, but that doesn't prevent THQ's wrestling game being a mountain of fun in the 'Battle Royal' fourplayer mode. Plenty of dirty tactics and frantic fighting.



Sega Rally 2 (Arcade)
On its recent visit to Sega's Japanese HQ, **Edge** seized on the chance to race around *SR2*'s great tracks. Model 3 visuals coupled with sublime handling – who could ask for more?

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Gran Turismo





Gran Turismo **is compatible with the Japanese Dual Shock analogue joypad. This offers perfect control sensitivity as well as heightening the realism by vibrating under hard acceleration, violent braking and high-speed turns**







Incredibly, watching the replays is like witnessing a real race such is the authentic behaviour of the cars

Gran Turismo: The Real Driving Simulator, to give its full Japanese monicker, is possibly the greatest driving game of all time. It's certainly the most impressive example of the genre ever to grace a home format – no other racing title has attracted the attention of so many individuals passing through **Edge**'s office or interfered with the magazine's schedule to such an extent. To say that it takes its racing seriously would redefine the term 'understatement'. Indeed, anyone doubting *GT*'s genuine devotion to racing driving will more than likely be convinced by the 54 page reference guide that accompanies the already substantial game manual. It offers everything from advice on driving technique – including 12 pages on the art of drifting – to a technical breakdown of every model buried within the game's code. The only drawback at this stage is that it's in Japanese.

GT probably features more cars in one game than the whole of last year's PlayStation racing games put together. Although **Edge** hasn't finished counting them, Sony's PR department proudly boasts that 'over 250' are available and – amazingly – they all handle differently. This is perhaps *GT*'s most impressive aspect. The physics models are so accurate that anyone whose motoring experience extends beyond prosaic machinery is able to differentiate between front, rear and four wheel drive vehicles, not to mention front and mid-engined vehicles.

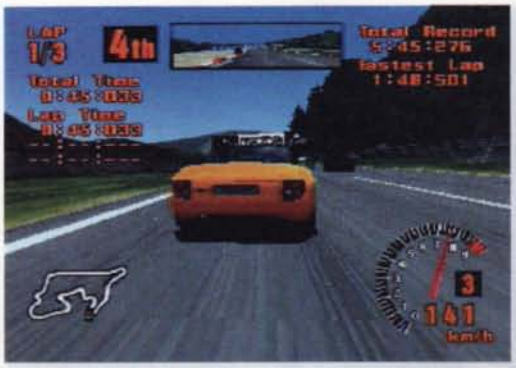
It's a safe assumption to say that most players will rush to partake in the arcade mode. Here only Japanese machines are available at first, along with a mere four tracks – although playing it through will reveal the game's other courses as well as grant access to the European and US cars. The most surprising feature, however, is the ability to engage in a time trial on three night courses running at an arcade-like 60 frames a second. Admittedly, in order to achieve this *GT*'s developer had to sacrifice its lighting effects, as well as simplifying scenery and removing all other cars from the track. Still, technical demonstrations have never proved so playable.

However, the real game lies in the GT option. Players start off with a limited sum of money with which to purchase a second-hand car and enter spot races with the purpose of earning more money in order to acquire superior machinery so as to better their chances of winning championships. To enter the latter, potential racing drivers must first obtain a racing licence. Three of these exist, but once a 'pass' is obtained players face a veritable feast of different cups – 13 in all – from short four-race meetings to 30 and 60 lap affairs on one of 21



Twoplayer battles are also possible and while the game suffers from a slight drop in speed, these prove highly playable and competitive events

Format: **PlayStation** Publisher: **SCEI** Developer: **In-house (Polys)** Price: **¥5,800 (£30)**
Release: **Out now (Jap), June (UK)**









The amount of cars on offer is simply bewildering. Furthermore, in addition to all of them being tweakable, *GT* allows players to alter every aspect of the vehicles such as ride height, brake balance, suspension stiffness, gear ratios and even the level of turbo boost before putting them through their paces

tracks, all rich in scenic detail. The cups themselves are varied in nature and range from front, rear, and four wheel drive competitions to tuned car sessions and full GT-prepared racing car events.

Once the money starts rolling in, players can opt to upgrade to a faster, more powerful, better handling machine or decide to tune up their current model. This is where things get silly. Imagine the acceleration figures of a Mitsubishi GTO that – once fully souped-up – boasts an astounding 955bhp and a top speed around the 400kph (250mph) mark... Indeed, there is much fun in deliberately taking ridiculously inferior machines and seeing what may be achieved by adding a multitude of racing components. And this is one of *GT*'s primary strengths – the anticipation of seeing how a particular model is going to handle after modifications is fully justified once on the track (and, more often than not, off it, too).

THE ANTICIPATION OF SEEING HOW A PARTICULAR MODEL IS GOING TO **HANDLE AFTER MODIFICATIONS** IS FULLY JUSTIFIED ONCE ON THE TRACK **(AND, MORE OFTEN THAN NOT, OFF IT, TOO)**

However, despite all of this attention to realism, *GT* is a far more forgiving, and therefore accessible, game than *TOCA Touring Car Championship*, for example. Anyone with a basic knowledge of driving should get round most of the tracks without much trouble, yet the application of the slightest racing technique will immediately shave seconds off the lap times. This is *GT*'s greatest achievement. No other racing videogame has ever offered players such a convincing and rewarding racing environment. Where else has a game conveyed such realistic handling in terms of the right weight feeling, body ▶





Although it isn't possible to flip the cars (a feature that would soon become frustrating), that didn't stop Edge from trying



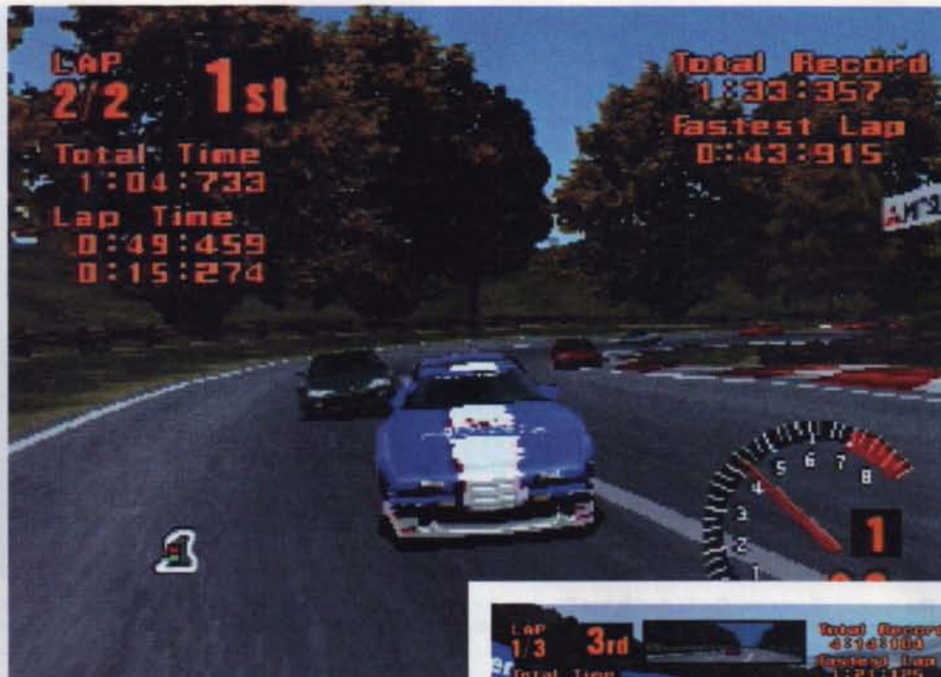


***GT*'s many vehicles are one of its main attractions. The car in front is a Toyota**





The Toyota Supra GT is one of the game's best vehicles. The tracks boast some impressive scenic elements (top)



Once tuned up and maxed out, cars take on a far more menacing appearance than their original form



roll, right down to lift-off oversteer and power understeer? Other games may have boasted sampled engine sounds but few make it possible to discern the turbos frantically whizzing in the back of the car. And what other game features car models so detailed that it is possible to recognise them by driving up to their boot and simply looking at their badge?

This realism extends to the races as well. During cups most players will breathe a sigh of relief to learn that, unlike *Mario Kart*, the same car does not win every race – allowing fairer and frustration-free competition.

There is, of course, no such thing as a perfect game, *GT* included. One possible criticism would be the relatively small number of cars on the track. This is a direct result of the PlayStation's technical limitations and never a problem for most of the time as the racing is so close players are constantly dealing with cars in front and behind, and more cars would not add anything to the proceedings. However, during the 60 lap 300 Grand Valley race it's possible to pull away from the other five contestants and spend a large proportion of the one hour and 38 minutes out in front with only the occasional need to overtake one of the backmarkers or pit in for a fresh set of tyres. Furthermore, the slowdown evident during the replays in the playable demo **Edge** tried a few months ago is still present and also makes an appearance during the actual game. Thankfully, this is extremely rare and always brief – and Sony Europe is promising that the PAL conversion will address the problem.

By comparison, the other gripes are petty; weather would have been a nice addition, as would a pit crew when coming in to change tyres, and the ability to fast forward the replays. The in-game music is atrocious and the end sequence features one of the most vomit-inducing tracks ever heard in a videogame. But again, the European release will change this – SCEE is replacing the whole musical score with material from 'name' bands.

Racing titles have remained fundamentally the same for the last 20 years. While *GT* doesn't represent as immediate and apparent a departure from racing games as *Super Mario 64* did for platform games, for example, it *is* the most realistic, detailed and playable example of an extensive genre. Not only does it redefine the concept of PlayStation racing games, *Gran Turismo* sets a new standard of excellence for all other platforms to follow.

Edge rating:

Ten out of ten





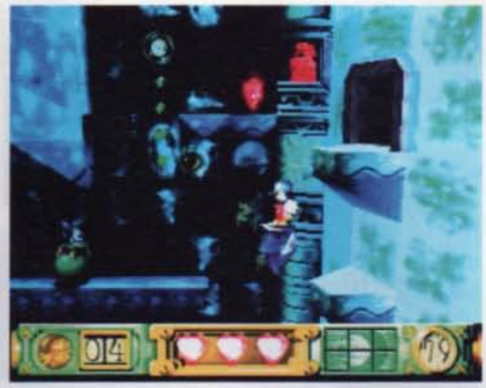
The three driving tests usually require players to complete one lap or a particular section of a track within a fairly strict time limit. In this case, players must drive (or handbrake turn) round a central section in the fastest possible time



The lighting reflections on the cars during replays are just one of many supremely impressive touches

Klonoa: Door to Phantomile





The popularity of mine cart rides among the Japanese development fraternity never wanes, hence its inclusion here. In many ways, *Klonoa* is reminiscent of *Castle of Illusion*, Sega's superb Mega Drive platformer





Namco's introductory sequence is one of the finest to grace the PlayStation

It doesn't necessarily follow that a videogame (or, indeed, any other commercial work) must innovate in order to aspire to 'classic' status. Many of the greatest software titles have simply been refined collections of existing concepts and mechanics. While *Klonoa* isn't the most significant ever created, it's almost peerless on the platform-starved PlayStation. Its strongest feature? That it uses platforming mainstays to create a surprisingly pleasing, if generic, gaming experience.

On first viewing, many gamers will (quite understandably) draw parallels between *Klonoa* and BMG's *Pandemonium* — the two-and-a-half-D engines used by both utilise similar camera angles and movement. A moment's play, however, reveals hidden depths within Namco's creation that Crystal Dynamics' vacuous creation lacks. *Klonoa* pays homage to the likes of *Yoshi's Island* and the *Mario* games. From the central character's extended jump (during which he attempts to fly by flapping his oversized ears) to the usage of assailants to attack and solve puzzles, *Klonoa*'s influences are brazenly apparent.

If the quality of its gameplay is not enough to convince players of its Japanese origins, though, the strength of its main character will surely do so. *Klonoa*'s main character is obviously a canine of some description, but his exaggerated ears and 'cute' demeanour rather beg an animated cartoon series in which to star. In a move sure to convince viewing TV execs of this fact, *Klonoa*'s introductory sequence is quite simply stunning. The quality of the rendering is such that the likes of 'Reboot' and even Disney's 'Toy Story' look dated by comparison. There was a time when Western developers were far ahead in their mastery of rendering techniques. This isn't necessarily the case at present, as Namco demonstrates with *Klonoa*. A shame, then, that the in-game sprite is rather disappointing when scaled to larger sizes.

Although worryingly easy to begin with, *Klonoa*'s levels are rather more complex that most players will initially expect. The central character is capable of 'grabbing' his assailants. Once held, he can throw them left, right, up and, handily, downwards, propelling himself skywards as he does so. This soon becomes an essential move later on in *Klonoa*, with the majority of its secrets only accessible through inventive use of this ability.

Klonoa's only real flaws are its comparative lack of challenge – **Edge** all but completed it in a day – and an occasional drop in visual standards. In certain sections, there's a distinct lack of scenery, while *Klonoa*'s sprites are rather 16bit in appearance. But if *Castlevania* is the best 2D platformer on the PlayStation, *Klonoa* is the best of the pseudo 3D crowd. If only it had a few more sections to play through...

Edge rating:

Seven out of ten





Enemies can be used for different means, like for bigger jumps over gaps. *Klonoa* is very story-led, although its interludes appear distinctly 16bit (right)

Format: **PlayStation** Publisher: **Namco** Developer: **Namco** Price: **£5,800 (£30)** Release: **Out now (Japan)**

Nagano Winter Olympics '98









Konami has made fine use of the N64's visual abilities with plenty of reflections and texture filtering



The events in *Nagano Winter Olympics* look sufficiently varied but, apart from a few imaginative deviations, including curling (top right) and ski jumping (top left), they all follow similar and uninspiring formats

As the cover feature in last month's **Edge** will attest, snow sports are very much in vogue at the moment. The first generation of snowboarding games has come and gone, but what the home console world has *really* been waiting for is the multi-event challenger, *Nagano Winter Olympics '98*. After the masterful *International Track and Field*, how could Konami possibly get it wrong?

Unfortunately, Konami *has* got it wrong – repetition being the major offence. Alpine skiing, giant slalom and snowboard giant slalom are all practically the same event, requiring the player to steer with the direction pad and make quick turns with the A button. There are minor differences of course, but it's not like choosing between the shot putt and javelin in *International Track and Field*, where apparently similar events call for completely different tactics. Similarly, *Nagano*'s bobsleigh and luge events differ little; both are equally lacklustre.

Elsewhere, Konami has at least explored various interesting control methods. The snowboard half pipe, for example, is the *PaRappa the Rappa* of winter events. Here the player has to choose ten tricks from a list including 'alley oop' and 'tail grab air'. These tricks are then performed by following button combinations shown on screen. Again, the level of control you have over the on-screen athlete is unsatisfactory, the action gratingly slow. This also applies to freestyle skiing ariels, where the player builds up power with the A button before simply timing the landing correctly. But *Nagano* is by no means a disaster. The multiplayer element is still excellent fun, as is the final event, curling. This well considered and addictive take on bowling is the ace up Konami's winter sleeve, requiring a blend of accuracy, cunning and gamesmanship. It's almost worth the asking price alone.

Nagano tries to offer more than frantic button pressing, but is an unconvincing gameplay experience as a result. Those hoping for a winter sport-oriented remake of *International Track and Field* will be sorely disappointed.

Edge rating:

Six out of ten

Format: **N64** Publisher: **Konami** Developer: **In-house** Price: **£55** Release: **Out now**

Winter Heat







The cross country race is a rather unusual finalé for a button bashing game, requiring strategic bursts of speed to conserve energy. At five minutes per race, it's by far the longest *Winter Heat* event

Sega's reputation as a producer of top-class software remains rightfully unblemished, despite the Saturn's poor commercial performance. *Winter Heat*, a port from the recently released ST-V arcade machine, illustrates a commitment to solid, measured gameplay. If Konami can be said to have strayed from the beaten path with *Nagano*, Sega has remained steadfastly on the straight and narrow with *Winter Heat*'s design.

Winter Heat's events are varied and satisfying. From the simplistic button bashing of the speed skiing and ski jump events to the greater control given to the player by the downhill and speed skating sports, Sega's interpretation of winter Olympics sports are more intuitive than *Nagano*'s equivalents.

The bobsleigh event demonstrates the refined nature of *Winter Heat*'s events. Viewed as a spectator, it appears a collection of basic turns, increasing in number later on the course. However, by giving players control of the bobsleigh's horizontal movement as well as the button bashing required for forward momentum, the participant's eyes tend to centre on their vehicle at the bottom of the screen. Therefore, corners appear to approach at a greater speed as the player struggles to keep their bobsleigh at the centre of the track — a simple idea well executed, much like *Winter Heat* itself.

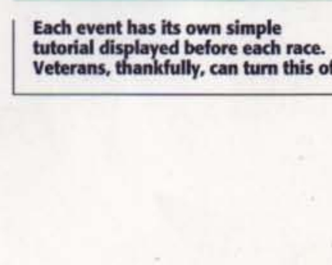
Understanding that the genre rather lends itself to multiplayer gaming, Sega has added a simultaneous twoplayer mode to *Winter Heat*, an option sorely lacking from *Athlete Kings* (AKA *Decathlete*). A multitap and the requisite number of pads introduces a competitive edge perhaps missing from the oneplayer game. That Sega neglected to include a winter Olympics-style competition for the solitary player is unsurprising yet disappointing. The simplistic accruing of points and records may satisfy most Japanese consumers, but the easily distracted Western gamer tends to expect far greater reward than a simple sense of achievement...

Ultimately, *Winter Heat* works best as a multiplayer title, lending itself to aprés-pub gatherings in much the same way as it does to casually-inserted coins in the arcades. Despite the inexplicable omission of a snowboarding event, *Winter Heat* is perhaps the game Konami's *Nagano* should have been.



The well-designed Bobsleigh event is one of *Winter Heat*'s most challenging races, taking time to perfect





Each event has its own simple tutorial displayed before each race. Veterans, thankfully, can turn this off

Edge rating:

Eight out of ten

Format: **Saturn** Publisher: **Sega** Developer: **AM3** Price: **£40** Release: **February (UK)**

Yoshi's Story







One of Yoshi's tasks is to ride this rotating device between two points. It is one of *Story*'s better sections, using the power of the N64 to add variety to the gameplay, and not just to its visuals



Underwater sections, while pretty, bear a marked resemblance to Rare's *Donkey Kong Country*





A Yoshi celebrates its victory over an end-of-level boss in fine style (top). The ride there was rather more of a challenge, however (above)

And so it continues. Nintendo updates yet another SNES classic – the innovative, Super FX-enhanced *Yoshi's Island* (9 out of 10, **E**26). The first of Nintendo of Japan's all-star spring trio, the '2.5D' platform game *Yoshi's Story* gives Mario's trusty sidekick his first chance to really shine as an individual character. Although the player had control over the diminutive dinosaur in the first game, Yoshi was merely a vessel for baby Mario as he searched for his lost brother, Luigi. However, for *Yoshi's Story*, Nintendo has jettisoned virtually all pretence of a plot (along with Mario minor), making the collection of objects the point of the game, rather than an adjunct to it.

The player controls one of six differently coloured Yoshis, rather than just the 'traditional' green one. *Story* has a relatively simple aim for a Nintendo title; the Yoshis must retrieve thirty 'Super Happy Tree Fruit' from around each level. However, while these can be collected ad-hoc, each of the six has its own favourite fruit – either bananas, grapes, melons or apples. By obtaining (through licking them up) successive identical fruit, the player's score for the stage multiplies. As in *Island*, the Yoshis can also use their tongues to grab smaller enemies, which are then popped out of their rears to become eggs. These eggs can be thrown at enemies, and also used to release fruit trapped in floating bubbles.



While the haphazard collection of fruit may be quicker (above), it doesn't make for a good score

Other actions at the player's disposal include the ability to slam the Yoshi into the ground, revealing yet more fruit, plus the main new skill on offer – sniffing. When holding down the right shoulder button, the view zooms in on the character, which inhales with increasing rapidity as it nears hidden goodies. On discovering such treasures, the Yoshi turns to camera and calls out, waving its arms. Several such set-piece idiosyncrasies are included in *Yoshi's Story*, but after extensive playing, the mugging and cooing begins to wear. However, the sections between completing levels, where all the Yoshis sing a happy song of victory, never grate the senses. At times it is almost as if a western team developed the levels, while a Japanese codeshop created the front-end.

Visually, *Yoshi's Story* sets its stall out early, with the first of the 24 levels (four stages on each of six worlds), every bit as beautiful as the last. Using the prerendered

Format: **N64** Publisher: **Nintendo** Developer: **In-house** Price: **¥6,800 (£35)** Release: **Out now (Japan)**







Yoshi's Story **fails to truly wow the player, given the technology available. However, certain sections, such as the floods shown above, are nice –but oft repeated – touches**



The Yoshis can collect a range of bonuses, although some don't taste particularly pleasant (main). Other items available include giant eggs, which contain bonus lives, and 'slave' ghouls which can return captured Yoshis

style of graphics first seen in Rare's *Donkey Kong Country*, Nintendo has created a wide variety of scenery – in its trademark wide variety of colours. The promised inclusion of different textures and graphic styles has been carried through – partially, at least. Sadly, the crayon cartoon backdrops of *Island* have failed to make the next-generational leap, although visual solace can be found in *Story*'s wood grain and fabric textures. Strangely, some of the game's most interesting graphics can be seen on the pop-up book level selection screen, which is reminiscent of *PaRappa the Rapper*.

But while this is an undeniably pretty game, there is little that really impresses. Because Rare achieved so much with *DKC*, *Yoshi's Story* needed to be bursting at the seams with innovative visual touches, particularly ones that enhanced the gameplay. For instance, there are sections where the camera dollies back from the action, which work well, but they're too few and far between. On another level the Yoshi can be swallowed by a giant plant, before being spat back out, shrunk to a minuscule size. Again, such effects are far too meanly distributed, although when they do occur, they always bring a smile to the face. At certain points short challenges are encountered, such as having to carry a teetering column of boxes between two flags, the reward being that every box that makes it contains a piece of fruit. Ironically, these 'sub-games' are often more enjoyable that the main objective.

Given the illustrious heritage – and fantastic technology – available for *Yoshi's Story* to utilise, it's sadly not the game it could and should have been. Above all else, it is simply too easy to complete – almost as if designed for children, something Nintendo's AAA-class games have often appeared to be but rarely are. Perhaps more poignantly, the two-year old *Yoshi's Island* remains the better game. Although it is clearly intended that collecting as much of the same fruit as possible is the real challenge here, it's poor motivation for playing a modern platform game.

Edge is unsure where the blame really lies for the lack of imagination exercised in the design of *Yoshi's Story*. Some changes to the game, such the removal of the baby Mario, are downright incomprehensible, as they added another dimension to *Island* that *Story* now lacks. One reason could be that Shigeru Miyamoto's talents are currently spread across several, diverse projects – for this title he was producer rather than director (as with *Mario Kart 64*). The result is a game conspicuously devoid of his golden touch.

In a market awash with second-rate, third-party titles, the last thing Nintendo can afford to do is let its high standards slip. While its B-list titles remain impressive enough to compare favourably with most third party output – *Yoshi's Story* is still irrepressibly endearing – NCL has placed itself on a pedestal from which it is proving easy to fall...

Edge rating:

Seven out of ten









Despite giant flowers (top), minor puzzles (middle), *Mario*-esque cannons (above) and underwater stages, *Yoshi's Story* disappoints

testscreen roundup

Wing Commander Prophecy

For many, the release of another *Wing Commander* game will be seen as a non-event, given the series' propensity for rolling out tiresome FMV sequences. Realising that the series had become obsessed with bigger and better FMV – at the expense of fresh and interesting gameplay – Origin promised that *Prophecy* would be a real 'back to basics' affair.

***Prophecy* kicks off a new *WC* trilogy, with a younger protagonist and a new enemy – a strange alien race who are laying waste to both humans and Kilrathi alike. These aggressors seem determined to fulfil the 'prophecy' of the title, the Kilrathi legend of N'thraak: armageddon, the end of everything. With players taking the role of Lieutenant Casey, *Prophecy*'s story unfolds during *X-Wing*-style missions interspersed with cheesy FMV and 'enthusiastic' acting.**

***Prophecy*'s new 3D engine is praiseworthy, especially when assisted by hardware acceleration. However, many of *Wing Commander*'s familiar (though some would argue 'tired') elements are still firmly in place. Its FMV may be slightly less elaborate – due to a reduced budget – but there's still an awful lot of it. *Prophecy*'s mission structure also differs little from that of its predecessors, with primary and secondary goals tailored to suit its typically linear storyline.**

Origin's small step back from the 'interactive movie' precipice can only be of benefit to the *Wing* franchise. For its next release, Edge hopes that 'step' can become a 'stride'.

Edge rating:

Six out of ten



Format: **PC** Publisher: **EA** Developer: **Origin** Price: **£35** Release: **Out now**

G-Police

As a demonstration of Psygnosis's considerable mastery of PlayStation hardware, *G-Police* is admirable. A PC conversion, then, was always going to be a showcase for the current crop of supported 3D cards.

Owners of lower-spec PCs need not apply, however. The minimum hardware for running *GP* is a P133 with 3D accelerator board. While this runs moderately well with a reduced detail level, turning the helicopter left and right causes a reduction in frame rate that many players will find unacceptable. *G-Police*'s tricky later levels often require intricate flight paths, made all the more difficult by a disorienting change of pace during horizontal movement.

Calibrated for high performance on a top-range PC – like so many PlayStation-to-PC conversions – *G-Police* is at its most comfortable on a P200 or higher. On such a machine, especially when equipped with a 3D card, the performance of the excellent PlayStation version is exceeded, with a reduction in fogging and a pleasingly crisp frame rate.

Following the current trend of larger hard disk installation being eschewed in favour of lengthy loads from CD-ROM, delays between levels are a frustration *G-Police* players must bear. Other than this, Pysgnosis' futuristic shoot 'em up is the visually-improved version many PC owners would expect.

A curious footnote to this release is that 3Dfx used *G-Police* in a recent demonstration of its new Voodoo2 chipset. The results were stunning. With no fogging, buildings as far as the eye could see and a near-perfect frame rate, *G-Police* is a spectacular advert for the new hardware. And deservedly so: as a meeting of envelope-pushing code and solid gameplay, *G-Police* has few peers.

Edge rating:

Eight out of ten



Format: **PC** Publisher: **Psygnosis** Developer: **In-house** Price: **£35** Release: **Out now**

Heavy Gear

With games featuring 'bot-based conflict being among Activision's more valuable endeavours, it was unlikely the company would abandon the genre after losing its *Mech Warrior* license. Instead, the videogame giant has scoured the dark world of pencil and paper RPGs for another very similar mech-combat game, returning with *Heavy Gear*.

'Very similar', in fact, is the operative phrase here. *Heavy Gear*'s front end is very similar to that of *Mech Warrior*, as is the mission-based action and the vast, desolate scenery. What *Heavy Gear* does is update the 3D engine, add a host of gameplay tweaks and change the story. The conflict now is between two rival factions – The Confederate Northern City States and the Allied Southern Territories (the American Civil War with robots: what a clever idea), with action taking place on the inhospitable Terra Nova.

Despite many similarities, *Heavy Gear* is a fine game in its own right. Players can choose to go through a whole 'story' (assuming the role of Heavy Gear pilot Edward Scott and taking on a range of missions for the Northern contingent) or they can avoid the main FMV-ridden epic and take a Tour of Duty instead. Here, players create their own characters and fight through a series of missions for whichever side they like. With multiplayer and practice options also included, there is no shortage of choices for the keen robot pugilist.

In terms of gameplay, *Heavy Gear* is hefty amalgam of genre styles. On one level, things are rather sim-like – gamers can build their own mech warriors (ahem), equipping them with dozens of different cannons, missiles, grenades and armour types and then upgrading as missions are completed successfully. The controls, too, are sim-like in their complexity, allowing the player to perform a huge variety of tricky actions with the metallic warriors.

Luckily, beneath the complex array of controls is a basic firstperson combat system. Gears can jump, crouch and side-step allowing for cover to be taken during fire fights without losing the ability to fight back. This dexterity also makes conflict more compelling and addictive – which is a good thing, because take away the big guns, the nice explosions, the fiddly combat and there's not much left. Unlike, say, *Quake*, there are no puzzles as such and very little interaction with static scenery – it's just fight this enemy, get to this waypoint, save allied units and then get the hell out.

In short, though, this is a must for *Mech Warrior* fans, and a reasonably good idea for everyone else. While the 3D scenery is empty and boring (one often wishes for some of *Turok*'s labyrinthine landscapes to explore), there is much fun to be had blowing up robots from great distances and commanding other Heavy Gears in your squad to do the dirty work – even if many players will find their will to do so drained by the lack of collateral detail. The PC world has moved on along way since *Mech Warrior 2*, and, although it makes headway, *Heavy Gear* hasn't quite caught up.

Edge rating:

Seven out of ten





Format: **PC** Publisher: **Activision** Developer: **In-house** Price: **£35** Release: **Out now**

Snobow Kids

First of the four new N64 snowboarding games (see 'The Big Chill' feature, E54), *Snobow Kids* is a light-hearted, light-weight take on the sport. Featuring pint-sized participants, the game takes place over six standard tracks, set in unusual locations such as a fairground. One of its neatest touches is that the courses are looped, with characters having to hitch a ride back to the top of the slopes on a chairlift.

Control over *Snobow Kids'* characters is via the N64's analogue stick. But, rather than having a button to tighten the turning action through corners, the player has to pull back on the stick – as if digging the rear of the board into the snow. However, it would seem that the disconnected feeling that afflicts so many car racing games can also affect those on snow.

Rather than being a simple race from A to B, *Snobow Kids* has assorted weaponry scattered along the length of the track. The three opposing characters (either human or N64 controlled) can use these against other players, resulting in a surprisingly hard game, at times. There are also a couple of sub-games included, such as shooting targets and time attack, plus the facility to buy new, faster boards with money won from racing. Unfortunately, the sum of *Snobow Kids'* various parts fail to make a compelling whole. The phrase 'mildly diverting' was made for games such as this.

Edge rating:

Six out of ten



Format: **Nintendo 64** Publisher: **Atlus** Developer: **In-house** Price: **Y6,800 (£35)** Release: **Out now (Jap)**

WCW vs nWo

While wrestling is probably one of the world's most tedious sports, it's one of those that can make a successful transition into videogame and prove a rather enjoyable title. To a certain extent, this is true of *WCW vs nWo World Tour*, which is an accomplished example of a wrestling title.

Players choose one of over 40 fighters (each with their own signature moves) from several wrestling federations and select a tournament to compete in, an exhibition match or the Battle Royal – four wrestlers in the ring fighting it out until one remains. This last mode proves very enjoyable, as four players engage in a no-holds-barred brawl where individuals are constantly swapping fighting partners or teaming up against an unfortunate player. Sadly, by comparison the appeal of the single player game ultimately wanes, and despite the wide variety of moves there is little incentive to return to explore them.

Graphically though, everything is well crafted with nicely-animated and reasonably detailed polygonal characters – although like the sport itself, the gameplay is a little rough around the edges and the collision detection is questionable.

While wrestling fans should love it, the casual gamer is neither likely to be converted nor persuaded to invest any form of long term effort into THQ's title – unless he's got three friends with him.

Edge rating:

Six out of ten





Format: **Nintendo 64** Publisher: **THQ** Developer: **Asmik/Aki** Price: **$55 (£35)** Release: **Out now (US) Feb (UK)**

Wild Choppers

After choosing one of its eight varied helicopters, the first thing to strike players about Seta's shoot 'em up is the control system which uses the D-pad for direction and the analogue stick for aiming duties. This proves a particularly awkward combination and, as no real alternative is offered, the first hour is spent – for right handed players at least – getting familiar with this unorthodox control setting.

That hurdle passed, things do become less frustrating. The eight missions offered are varied, ranging from straightforward locate-and-destroy outings, to rescuing POWs and escorting an airliner. In order to do this the chosen helicopter must be suitably equipped with artillery which can be done before embarking on a mission. The number of weapons carried depends on the type of craft chosen, as well as the amount of money accumulated by the player. Furthermore, blowing up buildings during the game usually reveals health and power-ups which progressively turn the decidedly weak default machine gun into a very satisfying double, triple, and finally, quadruple shot weapon.

With a well-judged difficulty level, progress soon becomes tricky – particularly if the chosen helicopter does not suit an individual's playing style. However, the awkward camera system conspires to irritate even when the perfect vehicle for the task has been chosen. The viewpoint has an annoying tendency to refuse to tilt, which means that during a steep climb over a hill it's impossible to see what lies ahead. More importantly, this proves particularly problematic when being attacked from above by one of the enemy's numerous flying units.

Another gripe is the unrealistic way the helicopter bounces off walls so that, certainly within the canyon-like confines of the fifth mission, the proceedings can easily turn into a frustrating game of pinball. Also, the fuzzy nature of the graphics is unlikely to frighten a PlayStation and the substantial presence of fogging points to lazy programming.

This is a shame, because *Wild Choppers* offers moments of genuine fun. Which makes it all the more regrettable when they are brought to an abrupt halt by its few but unfortunately fundamental shortcomings.

Edge rating:

Six out of ten







Format: **Nintendo 64** Publisher: **Seta** Developer: **In-house** Price: **¥6,800 (£35)** Release: **Out now (Jap) TBA (UK)**

Two unique offerings from the AM1 stable, but SNK's *Blazing Star* could hardly be more familiar...

Harley Davidson & LA Riders





Most of the bikers in *LA Riders* look like Disco-era Bono and The Edge from U2



The 'open-plan' city design apes Konami's *GTi Club* and means interchanges are the most likely crash sites (above). A pedestrian hurries away from a wayward Harley (right)







Accurate Harley replicas dominate both the cabinet (top) and the in-game action (above)

Sega's continuing devotion to the driving game does lead them into ever-more unusual territory as they bid to squeeze every last drop of out whichever board is their current in-house standard. Witness *Harley-Davidson & LA Riders*, a sprawling bike game which puts a set of classic hogs through their paces in their natural environment – the highways and byways of Los Angeles.

Starting with the 1948 Panhead, the roster of two-wheelers runs to the Fatboy, the Dyna Wide Glide, the Sportster 1200 Sport and that icon of seventies' TV, the California Highway Patrol's own motorcycle. Taking its cue from Konami's *GTi Club*, the layout of the city is open and and the rider can take their own route to the various checkpoints located at intervals throughout the city. If time is tight, there are short cuts available off road, allowing the more rebellious bikers to ride through pedestrian-filled buildings, precincts and parks.

LA Riders succeeds in offering an original driving experience compared to Sega's other recent offerings and weaving in and out of other road users – and the passers-by on the sidewalks – makes for a satisfyingly atmospheric ride through streets familiar from countless (and traditionally generic) Hollywood movies.

Developed by AM1, *LA Riders* runs on the latest version of the Model 3 board and boasts a deluxe cabinet similar that of the ageing *Manx TT*. A beast of a machine, it comes complete with a facsimile Harley, authentic down to the drooping chopper handlebars and louche armchair riding position so beloved of career twilight rockers. Japan's army of would-be Billy Idols must be in heaven. ■





Part of *LA Riders*' appeal will surely lie in the ability to go offroad, including a diverting cruise around the runways of LA's airport (left). Bike and taxi vie for the road (right)

Developer:	Sega (AM1)
Release:	Out now
Origin:	Japan

Blazing Star







Side-scrolling shoot 'em ups may be rare these days but *Blazing Star* should make up for it



SNK's continued commitment to its 16bit technology still yields impressive results

With *Blazing Star* SNK again demonstrates its dedication to genres dismissed as moribund by the bulk of developers, in this case, the horizontally-scrolling shoot 'em up. A continuation of their 1995 release *Pulstar*, *Blazing Star* replicates that game's firing system – itself derived from Irem's *R-Type* – but considerably beefs up those perennial shoot 'em up bells and whistles, the backgrounds and effects.

According to SNK, it's deliberately tailored to advanced players and some of the four different ships available cannot be powered up and retain the same level of weaponry throughout. *Pulstar*'s basic weapons – single shots and a chargeable energy ball – have been augmented in this sequel by the ability to fire consecutive charge shots together with a charge brake to cancel charges and rapid-fire speed shots.

The 346Mbit cartridge features more colourful backgrounds incorporating 3D sections that give some impressive flair to the visuals but it'll be the frenetic, old-school gameplay that, as ever, will keep the Neo-Geo's devotees happy.



Giant bosses were *Pulstar*'s forte and the trend looks set to continue in the sequel



Developer	SNK
Release	Out now
Origin	Japan

Get Bass



Tuggers across Japan will rejoice at *Get Bass*'s rod control

A doughty band of Americans have long been obsessed with bringing the dubious thrills of tugging a whopper to videogamers, but with the arrival of Sega's *Get Bass* fishing has surely hit the big time. AM1's Model 3-based machine aims for realism with its individual stalks of riverbank grass, translucent water and dramatic jerks of lures and fishes but probably draws the line at a playing time of several hours per play.

Get Bass claims to be fast-paced and exciting, no doubt something to do with the short rod-like control stick it boasts. Once players have snagged a bass they have to wrestle their quarry into shore, yanking their stubby rods for all they're worth — first up and down then left and right as they counter the efforts of the noble fish to escape a fate worse than a bed of shallots and new potatoes in a tomato coulis.

Whilst its stunning looks are not in question, *Get Bass*'s appeal remains an unknown quantity — which perhaps explains Sega's decision to release it exclusively in Japan.





Despite its subject, *Get Bass* does have undeniably attractive visuals (above). Quite how the control system works remains a mystery, known only to veteran shallow crankers (right)

Developer	Sega (AM1)
Release	Out now
Origin	Japan

Winter Games

Although Konami can be credited as the publisher of the inaugural 'button-bashing' sports game, it was Epyx that first published a game with winter events







The control method for *Winter Games'* ski jump (left) is almost identical to the same event in *Winter Heat*. Could the two, perchance, be related?





***Winter Games'* two skating events were its always its poorest sports**

While Epyx owes a debt to Konami's *Track and Field* for the inspiration behind its sports series, it was the American softco that first developed a winter sports title. *Winter Games* was the third in the *Games* series, and enjoyed a similar (if not quite so significant) success as *Summer Games* and the classic *Summer Games 2*.

With ski jump, hot dogging and bobsleigh events, *Winter Games* offered a total of eight different sports. It also featured the 'signature' of an Epyx sports games – the inclusion of what were (for the time) elaborate opening and closing ceremonies. With the limited amount of memory available to Commodore 64 coders, its developers were rather forced into using a 'multiload' system – the bane of every user without disk drive. With a single event in memory at any one time, *Winter Games* offered high-quality visuals and immaculate presentation.

Bar the lacklustre skating sports, the control methods used by *Games* have survived the test of time. Indeed, replace its 8bit visuals with polygon finery and *Winter Games* could almost compete with the likes of Sega's *Winter Heat*...

Publisher: US Gold	1985	No 24
Developer: Epyx	C64	

R-Types

Back in 1987 Irem's 2D shoot 'em up redefined a genre. A new PlayStation compilation will soon pay dutiful homage

It's difficult to believe that ten years have passed since the legendary *R-Type* first crept into arcades around the world. Even today, the game arguably still represents the perfect fusion of progressive game design and impeccable Japanese visualisation. Hence, a PlayStation *R-Type* compilation due for release in Japan this February will no doubt be highly sought after by fans of the original.

R-Types includes not only the classic original and its much underrated sequel, but also a preview of forthcoming title *R-Type Delta*, which is being designed specifically for Sony's machine, using polygons instead of flat 2D bitmaps

With the exception of the seminal PC Engine version of the original *R-Type*, console owners have yet to experience arcade-perfect conversions of this revered series. Next issue **Edge** revisits what many consider to be the greatest shoot 'em up of all time.

Format:	PlayStation
Publisher:	Irem Software
Developer:	In-house
Release:	February (Japan)
Origin:	Japan





The original – and best – *R-Type* (right) features incredible enemy designs



This rather defeated-looking individual is the first of a series of bosses facing players who will undertake Sega's forthcoming Saturn version of *The House of the Dead*. It shouldn't take them too long to work out the creature's weak spot...

Image rendered by Sega internal staff at the company's headquarters in Tokyo, Japan

Gallery

Dramatic images from Sega's *The House of the Dead* and System 3's *Bloodlust* lead a varied selection including *Tekken 3* and *Outcast*…





System 3's liberal interpretation of its past classic *International Karate* features pre-rendered characters, as pioneered by Rare. While *Bloodlust* is being developed for both PC and PlayStation for home consumption, the definitive version will surely belong to the arcade. Atari has licensed the game and is aiming for a simultaneously worldwide release this summer. The two characters featured here are among the sixteen contained in the full game.

Images from *Bloodlust* rendered in-house at System 3 using *3D Studio Max*

This action-packed scene is taken from Sega's rather enjoyable *Winter Heat* Saturn title and will be included in the game's own gallery section which allows players to peruse a selection of artwork depicting the various winter sporting activities.

Images rendered in *Softimage* by Sega's AM3 development team

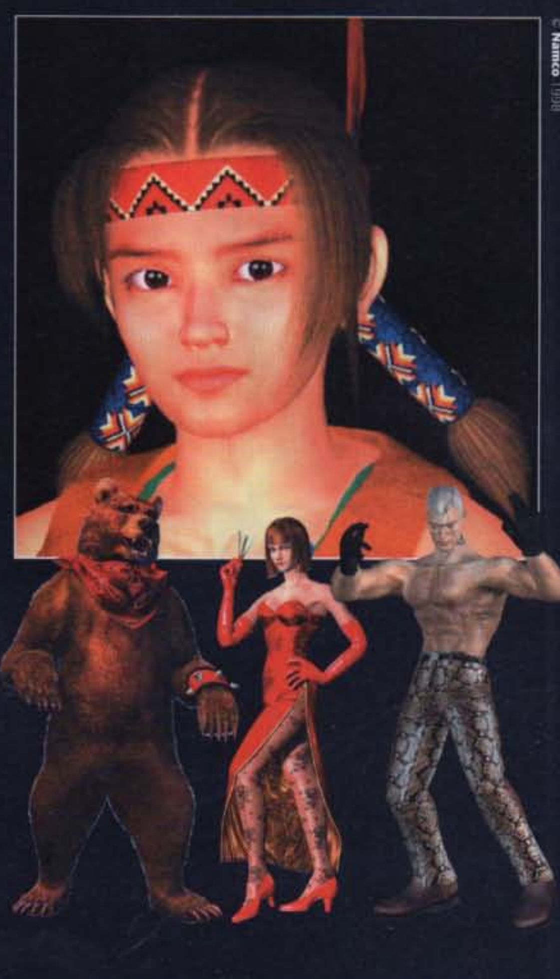


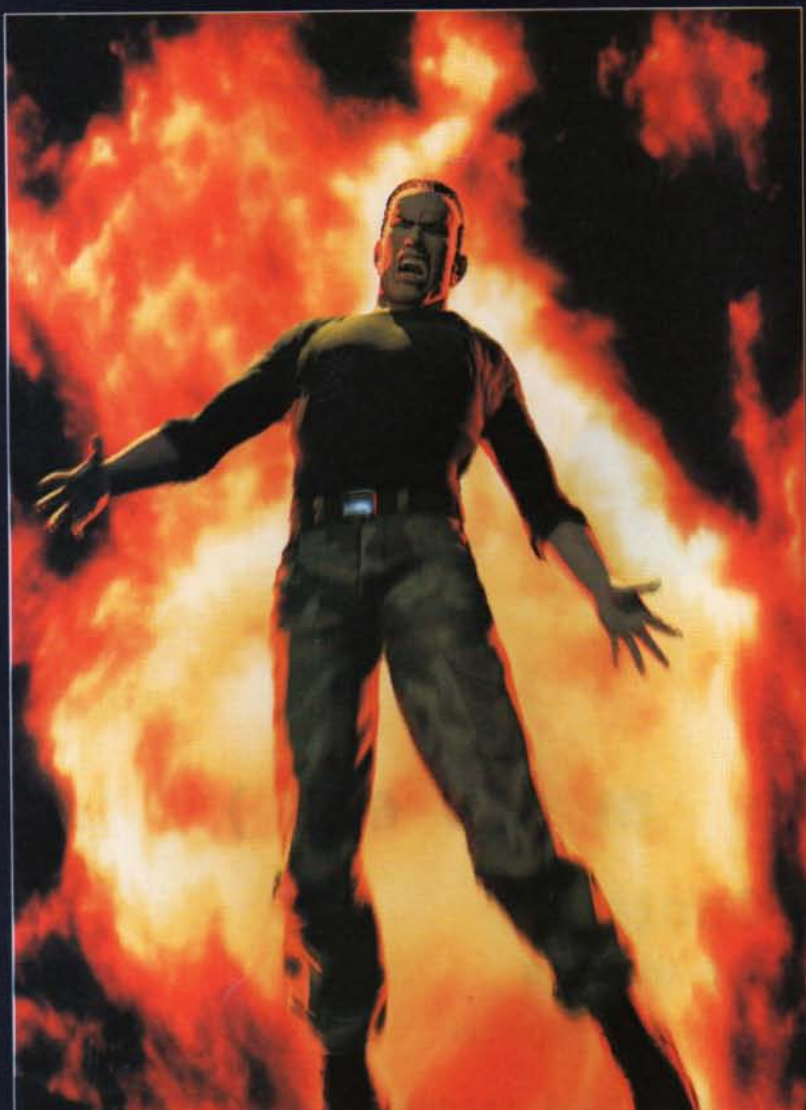
Tekken 3's characters – and, it seems, Namco's artistic skills – improve with each update of the series. The PlayStation interpretation is due for an imminent release in Japan.

Images rendered by Namco's internal development team in Tokyo, Japan





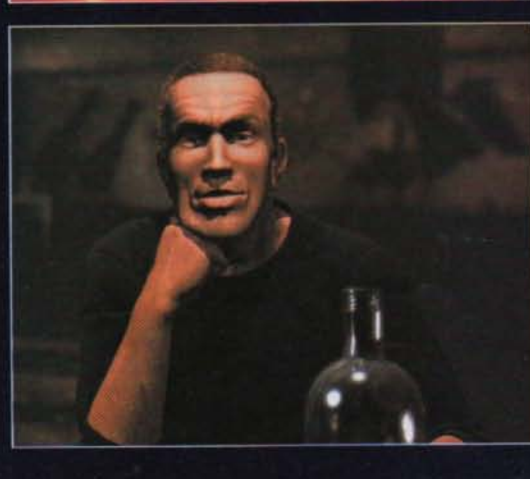






This main character from Infogrames' impressive-looking PC adventure *Outcast* is well-realised and indicative of the detailed style that its Belgian creators are striving to achieve.

Images rendered using *3D Studio* by Appeal







The above images are from Psygnosis' forthcoming IndyCar-based title, *Newman Haas Racing* – a title being coded in the UK and based on the original *F1* 3D engine.

Images created by the *Newman Haas Racing* team using *3D Studio*

DEVELOP

VIDEOGAME CREATION UNDER THE MICROSCOPE

Designing for the future

With the release of each new system or peripheral the power available to programmers increases. However, this extra performance, coupled with market pressures, drives up the time required to produce games, which in turn increases costs. Developers are therefore forced to plan further and further ahead – particularly in the PC market, where the basic machine specification is rising at such an incredible rate that a high-end system can easily become 'entry-level' or even subside into obsolescence during the course of a game's gestation. Even worse, some hardware improvements – the arrival of 3D accelerator cards, for instance – can render months of work invested in developing software solutions virtually useless.

Designing games for new hardware is a task that varies enormously in difficulty depending on the exact circumstances. The worst-case scenario is in developing for a system that does not even exist yet – as developers for new console systems must often do. In this case, programming and design takes place on hardware emulators, usually running on high-end workstations or 'arcade board' versions of the hardware. With the real console still in development, specifications are subject to regular amendments right up until the chip dies are cast – requiring re-coding or, at worst, re-design of whole sections of the game. For example, *Mario 64* began life as a SNES project, utilising the Super FX chip, before being shunted across to Nintendo's new machine. In general, the console market is less subject to flux than the PC market in this respect, as once a machine reaches production its specifications are very unlikely to change during its lifetime. Console owners aren't so amenable to add-ons as their PC brethren, and such devices (typified by Sega's 32X) rarely break through to mainstream acceptance.

However, in the interim period before a new machine appears, the development process is fraught with difficult choices. Often the decision has to be made whether to develop for an older system, with a limited lifespan, in the hope that it will still be a viable release platform when the game is finished – or to take a gamble on newer, unproven hardware.

Mario 64 began life as a SNES project, utilising the Super FX chip before being shunted across to Nintendo's new machine

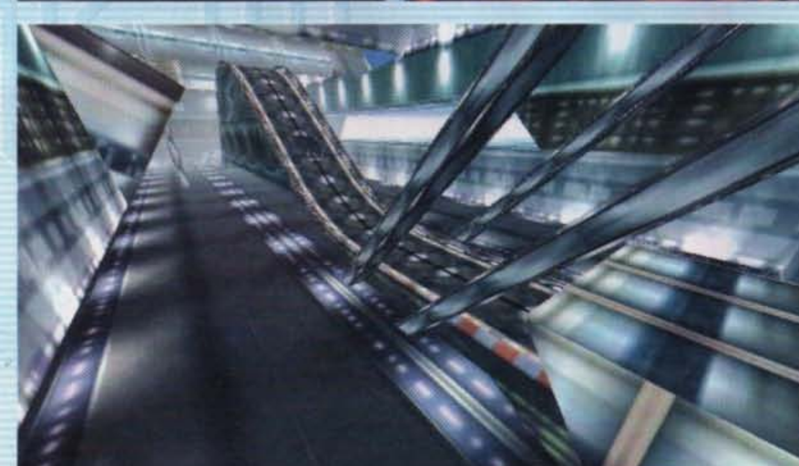
Even when the game has been completed and released, the console market traditionally throws one more problem at the developers – 50Hz conversions. The vast majority of console games are developed using the American/Japanese version of the hardware, with the video output running at 60Hz. As UK systems use the 50Hz PAL standard, with a 17% larger screen area and a correspondingly lower processing speed, the decision must be made either to produce an optimized PAL version which will run at the correct speed and without ugly 'PAL borders', or to simply use the existing version of the game. Unfortunately for owners of PAL machines, it is often the latter option that is more appealing to developers, resulting in squashed, velocity-challenged software.

The PC market is different again, existing in a state of permanent flux; constantly evolving, but largely through bolt-on performance upgrades rather than the introduction of entirely new systems. This means that existing code can be relied upon to work with only minor changes; the real challenge lies in forecasting what specification will be the standard when the game is released. Overestimate, and only the handful with high-end systems will buy the game. Underestimate, and the game will look dated before it reaches the shelves. Indecision at this stage can lead to a vicious circle in which the game is delayed further and further in order to bring it into line with current releases.

The problem, of course, varies according to the target genre. Some, particularly 3D games, can be scaled to make use of faster hardware relatively easily. The programmer, provided their engine will work on the new hardware, just has to increase the polygon count or view distance. Equally, a chess game will make use of a faster processor by making faster moves – as IBM's 'Deeper Blue' machine amply demonstrated.

Also, the standardised APIs now in common use on the PC platform are easing into acceptability on the consoles as developers, keen to lower their overheads, look for less time-intensive ways of porting games between platforms. These APIs can not only ensure that the game will run on future machines, but can allow it to exploit future advances – 3D acceleration is a case in point. Perhaps a time will come when these APIs merge to form the holy grail of multiplatform development – a game OS that encapsulates all the hardware features of each machine and allows the same software to run on each, taking advantage of the different platforms' specific abilities. E





Mad Trax **(above) was originally conceived as a VooDoo 2 demo. Having appeared as a playable demo on the Internet recently, its developers are considering a full release**

Weighing up Yaroze

The idea of setting up a development studio and creating a PlayStation masterpiece often seems attractive to gamers – until they find out about the tens of thousands of pounds they'll need to pay for the development kit. Alternatively though, becoming a net Yaroze member and bashing out a game on it costs just £550 (as long as you have a decent PC to connect it to). Not only that, but Sony are confident this innovative creation is actually powerful enough to come up with the professional goods – even going as far as to say that Namco's classic *Ridge Racer* could have been put together on Yaroze. So, if this is the case, what actually are the differences between the professional PlayStation Development Kit and its more financially modest home companion?

The most obvious contrast, of course, is physical. The professional dev hardware is simply a circuit board which fits inside the PC and communes directly with it via PCI. Yaroze, on the other hand is a complete reproduction of the PlayStation console which can only be attached to the PC via a serial cable. The latter is admittedly a slower form of communication and one of the major gripes programmers have with the system is its agonisingly protracted download times. However, once the data has been uploaded from the PC, there need be no communication between the two machines – which means no hit on the framerate.

The second major difference is the amount of RAM the two systems can utilise. The professional development hardware allows programmers to play about with up to 8Mb of data, whereas Yaroze only offers the capacity of the consumer PlayStation – 1.5 Mb for game code, one Mb for graphics and 0.5 Mb for sound. Although professional developers have to get their PlayStation code down to 3.5 Mb eventually, some claim that the extra RAM available through the professional kit is useful for getting things working quickly at the early stages of coding. On the other hand, it could be argued this bonus 6.5 megs is a false safety net: if the game won't fit into 3.5 then it can't be released. End of story.

Perhaps the main qualm professional developers have with Yaroze, however, is its lack of low level graphics libraries. As Fred Williams, Senior Programmer at Corrosive Software states, 'The proper code libraries let programmers talk to the PlayStation at a polygon level with 'do it yourself' lighting, while the Yaroze libraries leave out the 'primitive' [or low level] stuff and insist you use Sony's RSD '3D Model' and TMD '2D Image' formats. This means that Yaroze's fine for games involving 3D objects (animating or otherwise) but poor at 'environment stuff' which is much more efficient at polygon level. From my point of view this is the major limitation of the system.

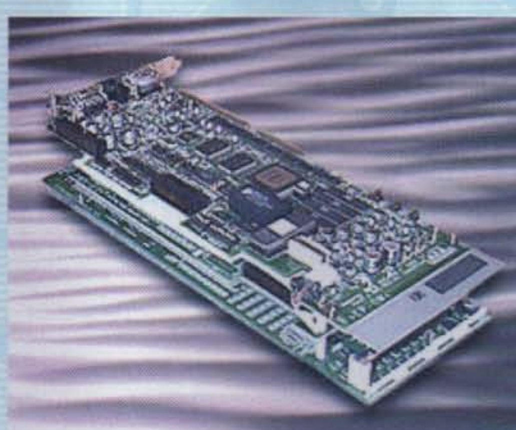
'I should point out that Sony did eventually release the 'polygon format' documentation over the web,' continues Williams. 'However, they didn't include the C structure equivalents which makes the whole thing unusable, so home programmers are still left to figure that out by themselves.' For its part, however, Sony insists that there is fully documented sample code for direct polygon manipulation and rendering on the Yaroze website, which may not be as user-friendly as the professional kit utilities, but still does the job.

For anyone who does run into difficulties, there are plenty of development aids available to Yaroze users. *CodeWarrior* from Metrowerks, for example, is an integrated development tool which combines a C compiler with assembly support and debuggers to make coding in a Windows environment much easier. Yaroze also supplies utilities which allow users to import data from *3D Studio* and *Animator Pro*, both of which are available to Yaroze members at a reduced price. This all adds to the price of developing on Yaroze, but the cost would quickly be recouped if a decent demo attracted the attention of a potential employer.

Inevitably, then, Yaroze is a scaled-down version of the professional kit. Along with the above differences, the system also offers much more limited CD access (the machine can't play gold discs or stream FMV, but it can run NTSC and PAL games, as well as audio CDs), and there is no verbal development support from Sony – although the Net Yaroze website does offer technical advice along with the chance to swap ideas and queries with other users.

Ultimately, the limits of the system may actually work in its favour. If a Yaroze user can come up with an impressive demo under restricted circumstances, a prospective employer is bound to wonder what they could achieve with the real thing. Jon Cartwright, Studio Head at Corrosive suggests, 'It's really easy to just sit down at a PC and code with no regard for the amount of RAM that's needed. But with a small system like Yaroze, you have to code tightly to get everything in that you need. That's certainly no bad thing'.





Visually, the differences between Yaroze (top) and the professional PlayStation development board (above) are obvious. In terms of technical specs, they are more subtle

Competition

As mentioned in E54, SCEE is currently running a Net Yaroze programming competition in association with Edge. The first prize is a Sony DSC-F1 Digital Still Camera, the second a Sony MZ-R30 MiniDisc Walkman and the third a Sony SRS-GS70 Shoulder Speaker System. Entrants are invited to submit an original Net Yaroze game which will be judged on both creative and technical merits. The closing date is March 12, 1998. For more information see E54 or go to www.scee.sony.co.uk /news/edge. Alternatively, write to the following address for an application form:

Net Yaroze 1st Anniversary Competition
SCEE
Waverly House
7-12 Noel Street
London W1V 4HH

Note: Net Yaroze kit has to be ordered directly from Sony Computer Entertainment. For information on how to become a Net Yaroze member phone: 0171 447 1616 or register online at www.scee.sony.co.uk









RESIDENT EVIL 2

The interactive movie received a veritable shot in the arm when Capcom's schlock horror masterpiece *Resident Evil* (aka *Biohazard*) appeared on the PlayStation in early 1996. Borrowing a game style pioneered by Infogrames' *Alone in the Dark* series, and then enriching it with 32bit visuals and some truly scary set-pieces, proved to be a master stroke for the Japanese developer. Two years on, the imminent and eagerly-awaited sequel looks set to become an even bigger event in the PlayStation's prolific gaming calendar. Next issue, **Edge** passes its judgement...

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